

PROJECT ID: 5160-00-63
WITH:

Sheet No. 1	Title
Sheet No.	Typical Sections and Details
Sheet No.	Estimate of Quantities
Sheet No.	Miscellaneous Quantities
Sheet No.	Right of Way Plot
Sheet No.	Plan and Profile
Sheet No.	Standard Detail Drawings
Sheet No.	Sign Plates
Sheet No.	Structure Plans
Sheet No.	Computer Earthwork Data
Sheet No.	Cross Sections

DESIGN DESIGNATION

A.A.D.T.(2010)	=	3250
A.A.D.T.(2034)	=	
D.H.V.	=	
D.	=	
T.	=	18.3%
DESIGN SPEED	=	55 MPH
ESALS	=	900,000

COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED EASEMENT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SURVEY LINE

SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE
(To be noted as such)

MARSH AREA

WOODED OR SHRUB AREA

WIN

PLAN OF PROPOSED IMPROVEMENT

PRAIRIE DU CHIEN - FERRYVILLE

(STRUCTURES B-12-41, B-12-42, B-12-43, B-12-45)

STH 35

CRAWFORD COUNTY

STATE PROJECT NUMBER

5160-00-63

B-12-45
 BEGIN PROJECT 778+50
 X=341,160.94 Y=192,196.15
 BEGIN DECK 779+14.92
 END DECK 780+13.44
 END PROJECT 780+80
 X=341,200.36 Y=192,422.60

B-12-43
BEGIN PROJECT 646+90
X=332,864.56 Y=182.131.43
BEGIN DECK 647+85.97
END DECK 648+78.16
END PROJECT 649+65
X=333,032.77 Y=182.348.98

B-12-42 —————
 BEGIN PROJECT 435+10
 X=320,903.70 Y=164,988.57
 BEGIN DECK 437+30.64
 END DECK 438+39.36
 END PROJECT 440+41
 X=321,000.78 Y=165,512.92

B-12-41
BEGIN PROJECT 328+10
X=318,580.71 Y=154,586.55
BEGIN DECK 328+98.49
END DECK 329+77.92
END PROJECT 330+65
X=318,598.07 Y=154,840.96

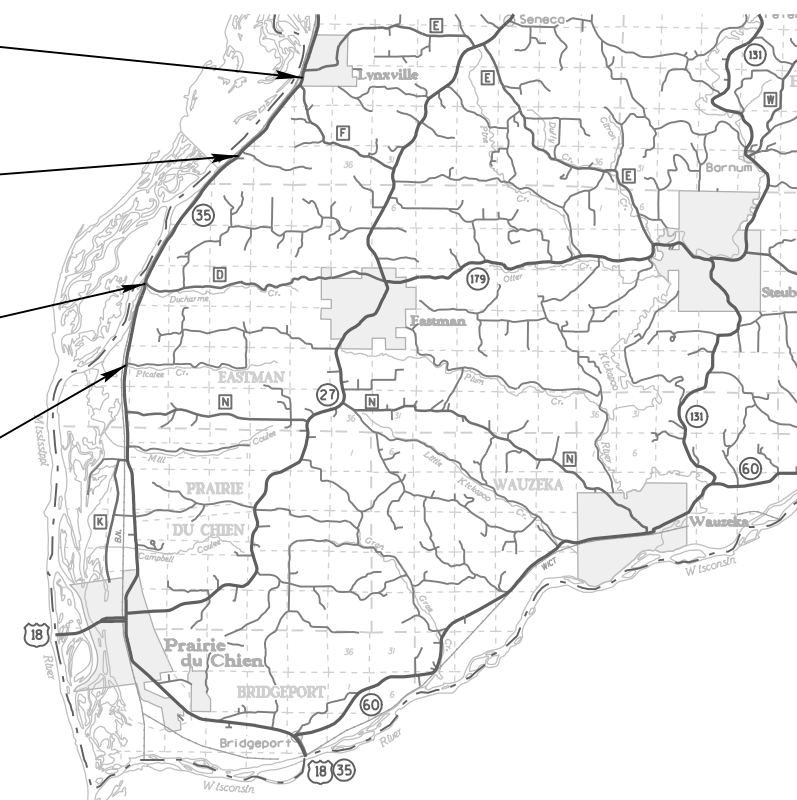


— G —
— E —
— T —
— C —





→



LAYOUT

0 2 MI 4 MI

SCALE

TOTAL NET LENGTH OF CENTERLINE = 0.00 MI.

- "Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Crawford County."

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5160-00-63	_____	_____

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor CORY SCHLEGEL

Designer KATHLEEN KLUDY

Project Manager TODD WALDO

District Examiner _____

District Supervisor STEVE FLOTTMEYER, PE

C.O. Examiner _____

APPROVED FOR DISTRICT OFFICE

DATE: 04/30/13 Stephen A. Flottmeyer
(Signature)

E I

GENERAL NOTES

- LOCATION OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES AREA MEMBERS OF DIGGERS HOTLINE.
- CROSS SLOPES AS SHOWN ON THE TYPICAL SECTION WILL VARY AT THE INTERSECTIONS.
- ALL RADII ARE MEASURED TO EDGE OF PAVEMENT OR FLAG OF CURB UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.
- 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.
- PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.
- DISTRUBED AREAS CAUSED BY THE CONTRACTORS OPERATIONS ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED AS DIRCTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK ASSOCIATED WITH DISTURBANCE.
- WHEN THE QUANTITIES OF ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- THE RATE OF APPLICATION FOR TACK COAT IS COMPUTED AT 0.025 GAL/SY.
- ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 113 LB/SY/IN
- THE AVERAGE DEPTH OF "REMOVING ASPHALTIC SURFACE MILLING" SHALL BE 2.0 INCHES ON THROUGH LANES AND SHOULDERS.
- ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2-INCH LIFT.
- SILT FENCE SHALL BE PLACED AS SHOWN ON PLANS AND/OR DIRECTED BY THE ENGINEER.
- THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS AHD SHALL BE RESPONSIBLE FOR REMONUMENTATION IF NECESSARY.

STANDARD ABBREVIATIONS

AGG.	AGGREGATE	N.C.	NORMAL CROWN OR NO CHANGE
ASPH.	ASPHALTIC	N	NORTH
A.D.T.	AVERAGE DAILY TRAFFIC	NO.	NUMBER
B.F.	BACK FACE	PAV'T	PAVEMENT
BK.	BACK	P.L.E.	PERMANENT LIMITED EASEMENT
BEG.	BEGIN	P.C.	POINT OF CURVATURE
B.M.	BENCH MARK	P.I.	POINT OF INTERSECTION
C/L	CENTER LINE	P.T.	POINT OF TANGENCY
D	CENTRAL ANGLE OR DELTA	V.P.C.	VERTICAL POINT OF CURVATURE
CO.	COUNTY	V.P.I.	VERTICAL POINT OF INTERSECTION
CTH	COUNTY TRUNK HIGHWAY	V.P.T.	VERTICAL POINT OF TANGENCY
CR.	CREEK	PCC	PORTLAND CEMENT CONCRETE
C.A.B.C.	CRUSHED AGGREGATE BASE COURSE	P.E.	PRIVATE ENTRANCE
C.Y.	CUBIC YARD	P.L.	PROPERTY LINE
C. & G.	CURB AND GUTTER	R	RADIUS OR RANGE
D	DEGREE OF CURVE	R/L	REFERENCE LINE
D.H.V.	DESIGN HOUR VOLUME	RT	RIGHT
DIA.	DIAMETER	REQ'D	REQUIRED
DISCH.	DISCHARGE	R.H.F.	RIGHT HAND FORWARD
EA	EACH	R/W	RIGHT OF WAY
E	EAST	R.	RIVER
ELEC.	ELECTRIC(AL), ELEC. CABLE	RD.	ROAD
EL., ELEV.	ELEVATION	SHLD.	SHOULDER(S)
EXC.	EXCAVATION	SHR.	SHRINKAGE
F.F.	FACE TO FACE	S	SOUTH
FERT.	FERTILIZER	S.F.	SQUARE FOOT (FEET)
F.E.	FIELD ENTRANCE	SDD	STANDARD DETAIL DRAWING(S)
F/L, F.L.	FLOW LINE	STH	STATE TRUNK HIGHWAY
CWT.	HUNDRED WEIGHT	STA.	STATION
INL	INLET	S.E.	SUPERELEVATION
INTER.	INTERSECTION	S/L	SURVEY LINE
JT.	JOINT	T	TANGENT
LT	LEFT	TEL.	TELEPHONE
L.H.F.	LEFT HAND FORWARD	TEMP.	TEMPORARY
L.	LENGTH OF CURVE	T.L.E.	TEMPORARY LIMITED EASEMENT
L.F.	LINEAR FOOT(FEET)	T.O.C.	TOP OF CURB
LC.	LONG CHORD	T.	(TRUCKS) PERCENT OF
LS	LUMP SUM	TYP.	TYPICAL
M.P.	MARKER POST	UNCL.	UNCLASSIFIED
MAX.	MAXIMUM	U.G.	UNDERGROUND (CABLE)
MGAL	1000 GALLONS	V.C.	VERTICAL CURVE
MIN.	MINIMUM	W	WEST

UTILITY COMPANIES & PERSONNEL

Jason Hogan
Alliant Energy - Electricity
4902 N. Biltmore Lane
Madison, WI 53718
(608) 458-4871
jasonhogan@alliantenergy.com

Lonnie Freeman
Dairyland Cable Syst - Communication Line
1450 Veterans Dr
Richland Center, WI 53581
(800) 677-6383
lonniewh@mhtc.net

Al Schnedider
Valley Ridge Clean W - Water
224839 STH 35
Lynxville, WI 54626
(608) 874-4698

Wis. DNR
DNR La Crosse Service Center
3550 Mormon Coulee Rd
La Crosse, WI 54601
ATTN: Karen Kalvelage (Crawford County)
PHONE: (608) 785-9115
karen.kalvelage@wisconsin.gov

Steve Nelson
CenturyLink - Communication Line
333 N Front St
P.O. Box 4800
La Crosse, WI 54602
Office:(608) 342-4369
Cell: (608) 778-3942

Andy Kilcoyne
Scenic River Energy - Electricity
231 N Sheridan St
Lancaster, WI 53813-1342
Office: (608) 723-2121 ext. 108
Cell: (608) 642-2720
akilcoyne@srec.net

Wis. Dept. of Transportation
Southwest Region - La Crosse Office
3550 Mormon Coulee Rd.
La Crosse, WI 54601
ATTN: Gary Jackson (Utilities Coordinator)
PHONE: (608) 785-9032
gary.jackson@dot.wi.gov

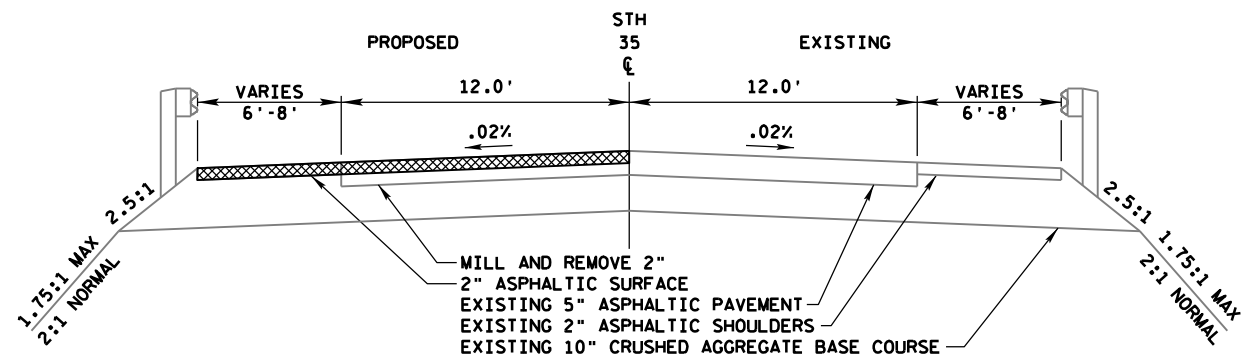
Wis. Dept. of Transportation
Southwest Region - La Crosse Office
3550 Mormon Coulee Rd.
La Crosse, WI 54601
ATTN: Kathleen Kludy (Project Designer)
PHONE: (608) 785-9948
kathleen.kludy@dot.wi.gov

DIGGERS



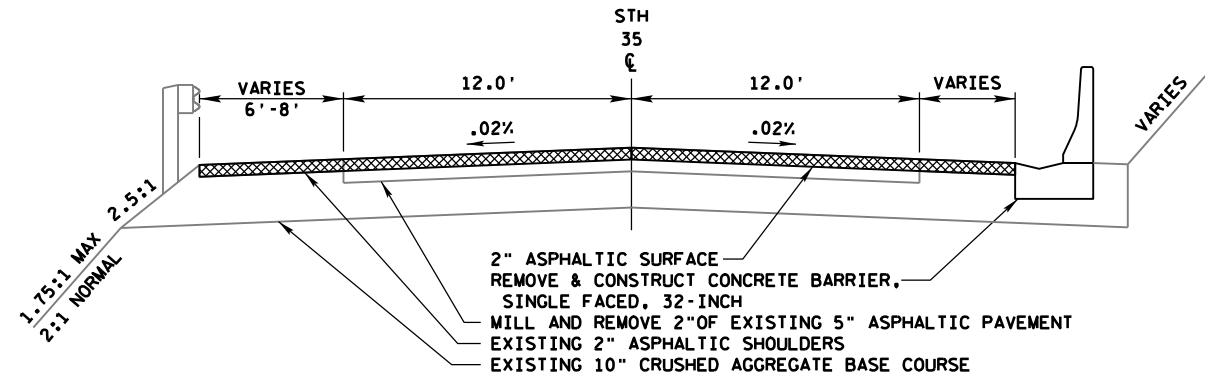
HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com



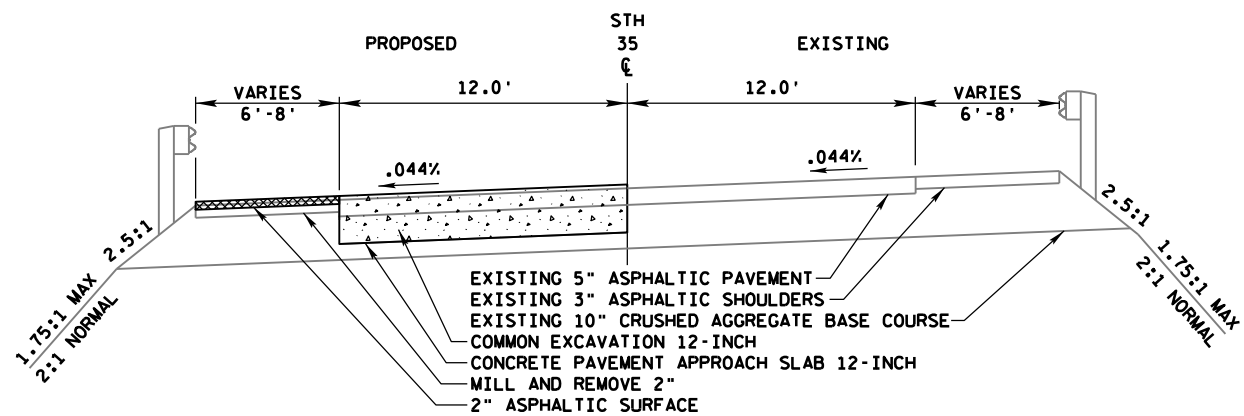
TYPICAL TANGENT HALF SECTION

328+10-328+82.00, 329+94-330+65 B-12-41
435+49-435+78.85, 438+62-439+55 B-12-42
646+90-647+65.00, 648+99-649+65 B-12-43



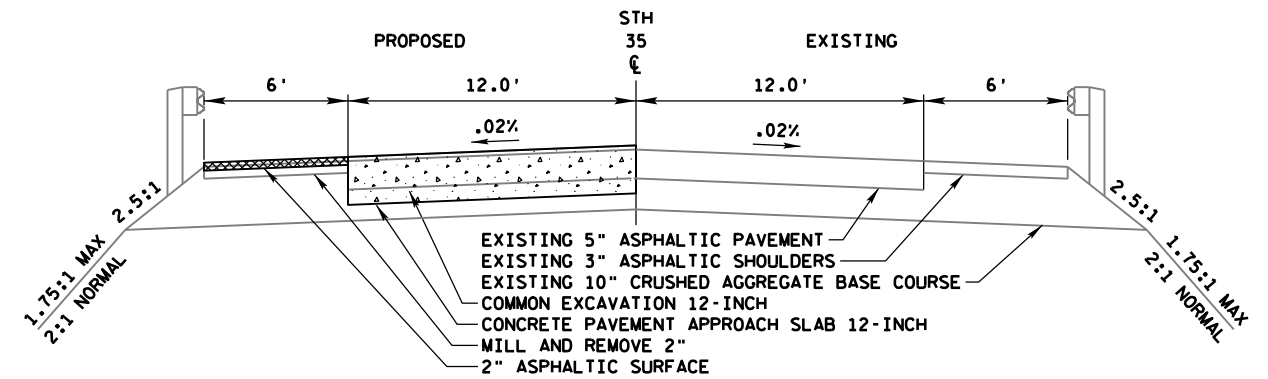
TYPICAL TANGENT SECTION

439+55-440+41 B-12-42



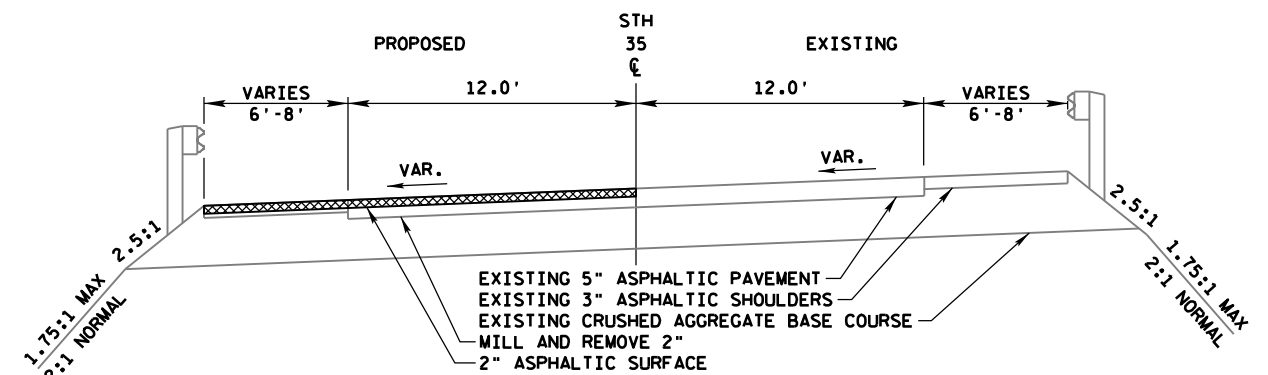
TYPICAL SUPERELEVATED HALF SECTION - APPROACH SLAB

778+99-779+14.92, 780+13.44-780+29 B-12-45



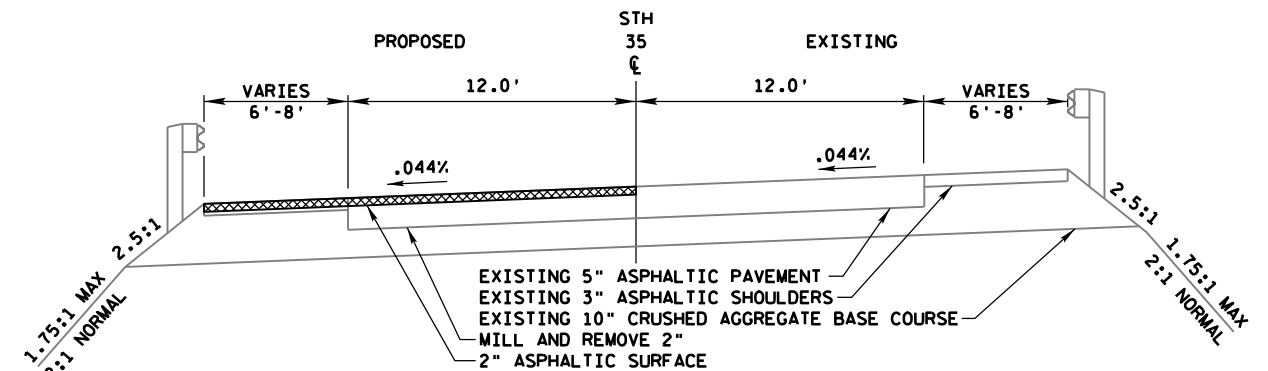
TYPICAL TANGENT HALF SECTION - APPROACH SLAB

328+82-328+98.49, 329+93.58-329+94 B-12-41
437+09-437+30.64, 438+39.36-438+62 B-12-42
647+65-647+85.97, 648+78.16-648+99 B-12-43



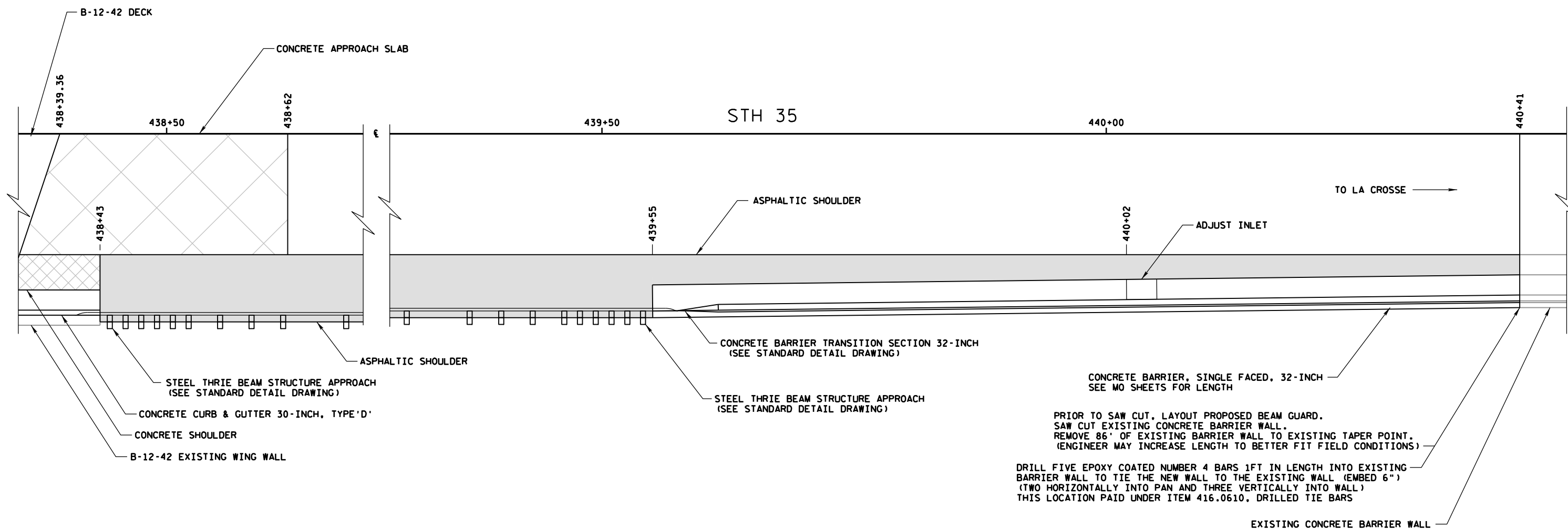
TYPICAL SUPERELEVATED HALF SECTION

435+10-437+09 B-12-42
646+90-647+47, 649+30-649+65 B-12-43



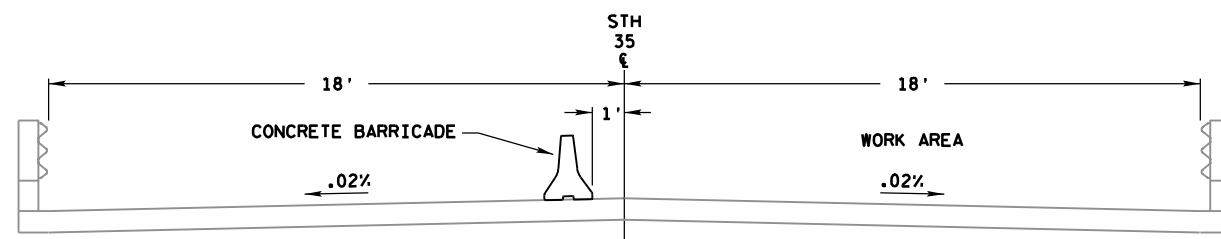
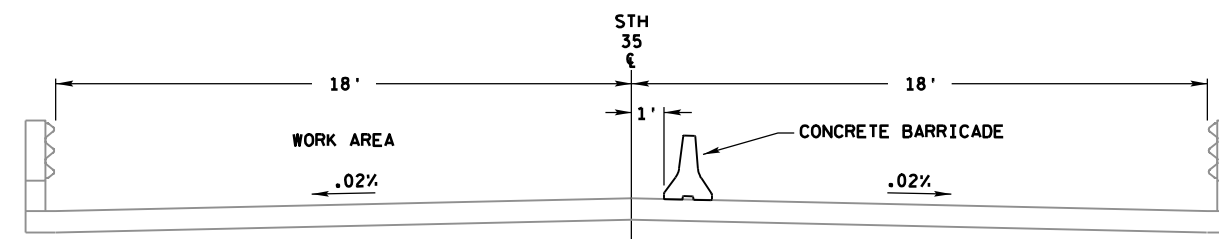
TYPICAL SUPERELEVATED HALF SECTION

778+50 - 778+99, 780+29 - 780+80 B-12-45

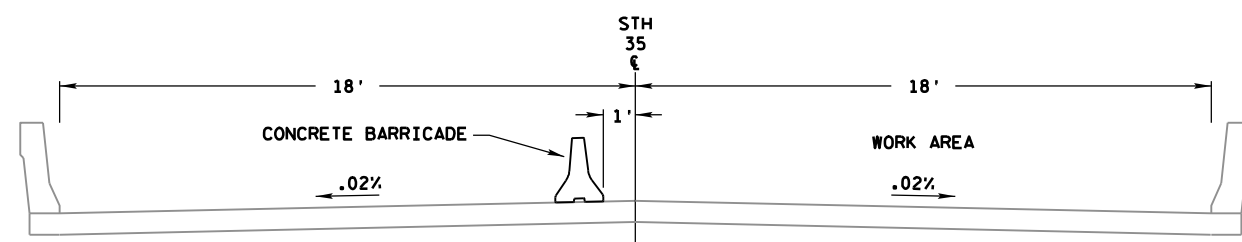
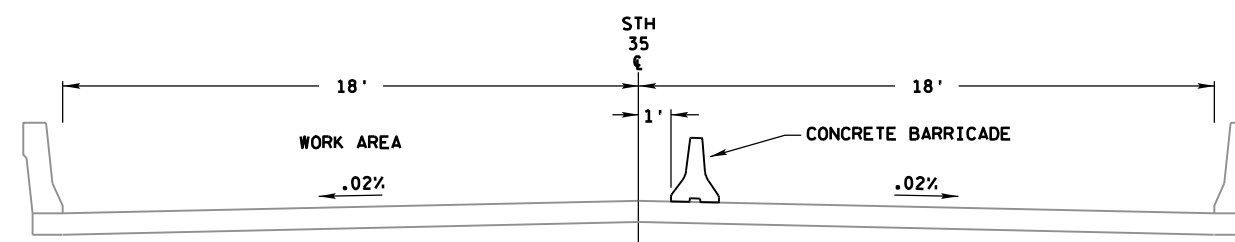
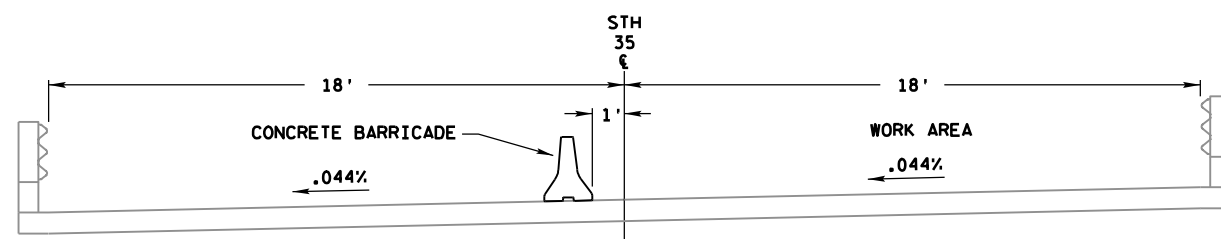
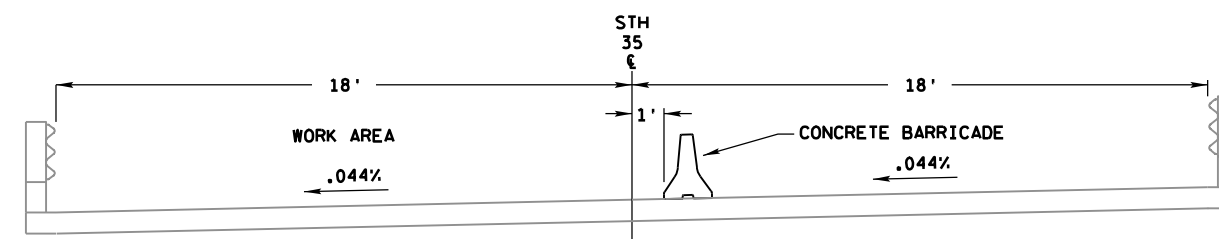


CONCRETE BARRIER WALL REPLACEMENT DETAIL

STAGE I

PHASE 1 TRAFFIC CONTROL B-12-41 & B-12-43PHASE 2 TRAFFIC CONTROL B-12-41 & B-12-43

STAGE II

PHASE 3 TRAFFIC CONTROL B-12-42PHASE 4 TRAFFIC CONTROL B-12-42PHASE 3 TRAFFIC CONTROL B-12-45PHASE 4 TRAFFIC CONTROL B-12-45

LEGEND

- 4 POST MOUNTED SIGN
 x-x-x-x REMOVING PAVEMENT MARKING
 IC TYPE III BARRICADE WITH SIGN
 ● DRUM WITHOUT WARNING LIGHT,
 ● DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
 TEMPORARY PRECAST CONCRETE BARRIER
 → DIRECTION OF TRAFFIC FLOW
 4" X 6" WOOD POST
 FLAGS, 16"x16" MIN., ORANGE
 TEMPORARY SIGNAL WITH BACKPLATE
 AND 12-INCH LENSES ON BREAKAWAY
 POLE



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES :

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

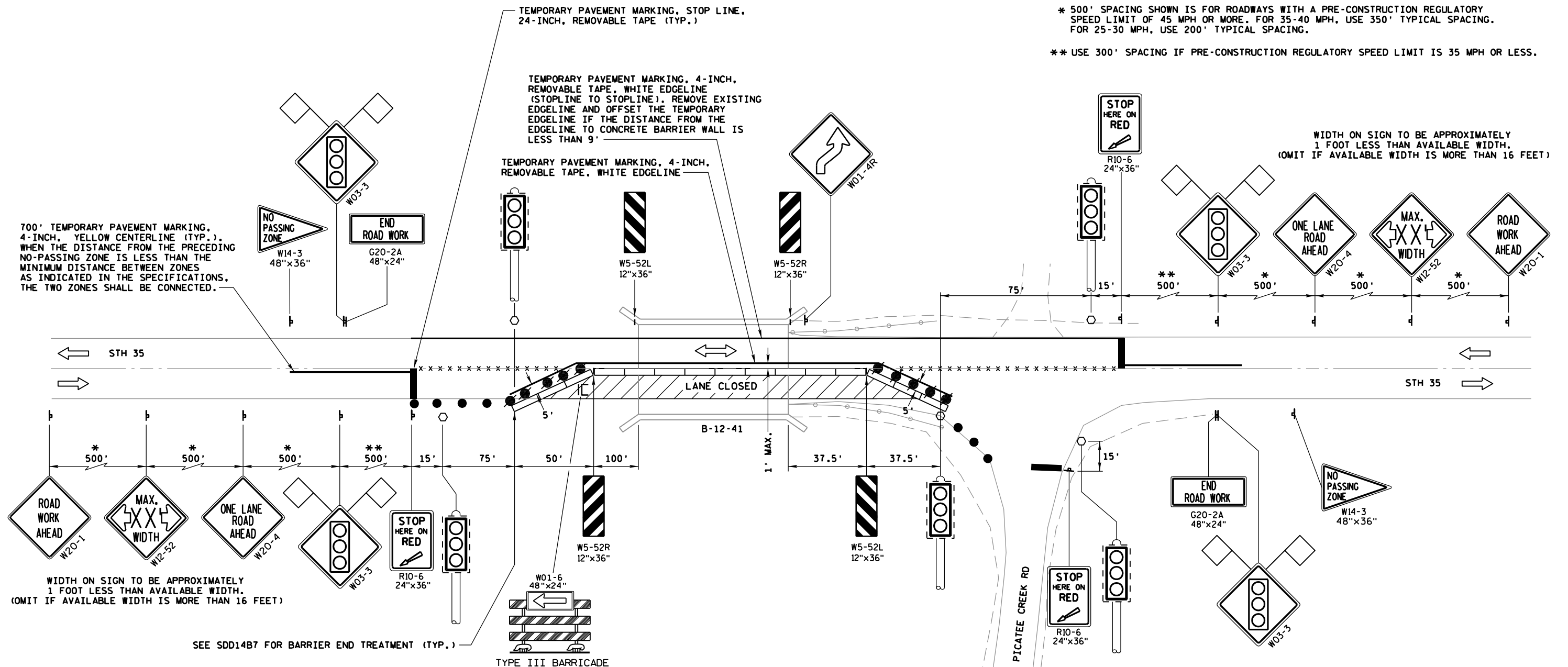
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500' SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350' TYPICAL SPACING. FOR 25-30 MPH, USE 200' TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



DATE 22MAY13		E S T I M A T E O F Q U A N T I T I E S			
LINE				5160-00-63	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	3,047.000	3,047.000
0020	204.0165	REMOVING GUARDRAIL	LF	1,262.000	1,262.000
0030	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. CONCRETE BARRIER WALL	LF	80.000	80.000
0040	205.0100	EXCAVATION COMMON	CY	133.000	133.000
0050	213.0100	FINISHING ROADWAY (PROJECT) 01. 5160-00-63	EACH	1.000	1.000
0060	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	424.000	424.000
0070	415.0060	CONCRETE PAVEMENT 6-INCH	SY	40.000	40.000
0080	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	384.000	384.000
0090	416.0610	DRILLED TIE BARS	EACH	5.000	5.000
0100	455.0605	TACK COAT	GAL	77.500	77.500
0110	465.0105	ASPHALTIC SURFACE	TON	342.500	342.500
0120	465.0315	ASPHALTIC FLUMES	SY	40.000	40.000
0130	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,686.000	1,686.000
0140	502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	110.000	110.000
0150	509.0301	PREPARATION DECKS TYPE 1	SY	148.000	148.000
0160	509.0302	PREPARATION DECKS TYPE 2	SY	10.000	10.000
0170	509.0500	CLEANING DECKS	SY	1,519.000	1,519.000
0180	509.1500	CONCRETE SURFACE REPAIR	SF	845.000	845.000
0190	509.2000	FULL-DEPTH DECK REPAIR	SY	4.000	4.000
0200	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	124.000	124.000
0210	517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 01. B-12-0045	LS	1.000	1.000
0220	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	45.000	45.000
0230	603.0105	CONCRETE BARRIER SINGLE-FACED 32-INCH	LF	79.000	79.000
0240	603.0405	CONCRETE BARRIER TRANSITION SECTION 32-INCH	LF	7.000	7.000
0250	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	350.000	350.000
0260	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	700.000	700.000
0270	606.0300	RIPRAP HEAVY	CY	12.000	12.000
0280	611.8115	ADJUSTING INLET COVERS	EACH	3.000	3.000
0290	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	11.000	11.000
0300	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	351.050	351.050
0310	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	475.000	475.000
0320	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	9.000	9.000
0330	614.0390	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	EACH	1.000	1.000
0340	614.0515	GUARDRAIL STIFENED LHW	LF	50.000	50.000
0350	614.0905	CRASH CUSHIONS TEMPORARY	EACH	16.000	16.000
0360	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 5160-00-63	EACH	1.000	1.000
0370	619.1000	MOBILIZATION	EACH	1.000	1.000
0380	624.0100	WATER	MGAL	5.500	5.500
0390	628.1504	SILT FENCE	LF	1,736.000	1,736.000
0400	628.1520	SILT FENCE MAINTENANCE	LF	3,472.000	3,472.000
0410	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0420	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	8.000	8.000
0430	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	4.000	4.000
0440	637.0202	SIGNS REFLECTIVE TYPE II	SF	28.500	28.500
0450	638.2602	REMOVING SIGNS TYPE II	EACH	4.000	4.000
0460	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	3.000	3.000

DATE 22MAY13			E S T I M A T E O F Q U A N T I T I E S		
LINE				5160-00-63	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0480	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5160-00-63	EACH	1.000	1.000
0490	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,910.000	8,910.000
0500	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,719.000	1,719.000
0510	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	2,120.000	2,120.000
0520	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,369.000	5,369.000
0530	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	144.000	144.000
0540	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	4,393.000	4,393.000
0550	646.0600	REMOVING PAVEMENT MARKINGS	LF	1,353.000	1,353.000
0560	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	6,668.000	6,668.000
0570	649.1400	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH	LF	168.000	168.000
0580	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-12-0041	LS	1.000	1.000
0590	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 02. B-12-0042	LS	1.000	1.000
0600	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 03. B-12-0043	LS	1.000	1.000
0610	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 04. B-12-0045	LS	1.000	1.000
0620	690.0150	SAWING ASPHALT	LF	480.000	480.000
0630	690.0250	SAWING CONCRETE	LF	12.000	12.000
0640	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000
0650	SPV.0060	SPECIAL 01. ANCHOR BOLT REPAIR	EACH	1.000	1.000
0660	SPV.0060	SPECIAL 02. REFURBISH STEEL POST BASE PLATES AND BOLTS	EACH	32.000	32.000

3

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION TO	STATION	DEPTH IN.	WIDTH FT	LENGTH FT	204.0120 SY	REMARKS
0010	328+10	- 328+82	2	36	72	288	
0010	329+94	- 330+65	2	36	71	284	
0010	435+10	- 437+09	2	36	199	796	
0010	438+62	- 439+67	2	36	113	452	
0010	439+67	- 440+41	2	32	74	263	
0010	646+90	- 647+65	2	36	75	300	
0010	648+99	- 649+65	2	36	66	264	
0010	778+50	- 778+99	2	36	49	196	
0010	780+29	- 780+80	2	36	51	204	
TOTAL 0010						3,047	

REMOVING GUARDRAIL

CATEGORY	STATION TO	STATION	LOCATION	204.0165 LF	REMARKS
0010	328+17	- 328+98.50	LT	82	PHASE 1
0010	328+24	- 328+98.50	RT	75	PHASE 2
0010	329+78	- 331+02	LT	124	PHASE 1
0010	329+78	- 331+05	RT	127	PHASE 2
0010	435+27	- 437+38	RT	211	PHASE 4
0010	436+42	- 437+24.5	LT	82.5	PHASE 3
0010	438+33	- 439+14.5	RT	81.5	PHASE 4
0010	438+45	- 438+78	LT	33	PHASE 3
0010	647+03	- 647+81	LT	78	PHASE 1
0010	647+12	- 647+91	RT	79	PHASE 2
0010	648+73	- 649+50	LT	77	PHASE 1
0010	648+82	- 649+63	RT	81	PHASE 2
0010	778+81.77	- 779+14.92	LT	33	PHASE 3
0010	778+81.77	- 779+14.92	RT	33	PHASE 4
0010	780+13.94	- 780+47.09	LT	33	PHASE 3
0010	780+13.94	- 780+47.09	RT	33	PHASE 4
TOTAL 0010				1262	

3

EXCAVATION COMMON

REMOVING (CONCRETE BARRIER WALL)

CATEGORY	STATION TO	STATION	LOCATION	204.9090.S LF	REMARKS
0010	439+61	- 440+41	RT	80	NORTH OF B-12-42
TOTAL 0010				80	

CATEGORY	STATION TO	STATION	STRUCTURE	WIDTH FT	LENGTH FT	DEPTH FT	205.0100 CY	REMARKS
0010	328+82	- 328+98	B-12-41	24	16	1	14	APPROACH SLAB
0010	329+78	- 329+94	B-12-41	24	16	1	14	APPROACH SLAB
0010	437+09	- 437+31	B-12-42	24	15-28	1	19	APPROACH SLAB
0010	438+39	- 438+62	B-12-42	24	16-29	1	20	APPROACH SLAB
0010	647+65	- 647+86	B-12-43	24	16-26	1	19	APPROACH SLAB
0010	648+78	- 649+00	B-12-43	24	15-27	1	19	APPROACH SLAB
0010	778+99	- 779+15	B-12-45	24	16	1	14	APPROACH SLAB
0010	780+13	- 780+29	B-12-45	24	16	1	14	APPROACH SLAB
TOTAL 0010							133	

3

BASE AGGREGATE DENSE 3/4-INCH

305.0110						
CATEGORY	STATION TO	STATION	LOCATION	TON	STRUCTURE	REMARKS
0010	328+16 -	328+99	LT	56	B-12-41	SHOULDER
0010	328+16 -	328+99	RT	8	B-12-41	SHOULDER
0010	329+78 -	330+61	LT	22	B-12-41	SHOULDER
0010	329+78 -	330+61	RT	10	B-12-41	SHOULDER
0010	436+41 -	437+25	RT	57	B-12-42	SHOULDER
0010	435+50 -	437+38	LT	61	B-12-42	SHOULDER
0010	438+33 -	439+74	RT	10	B-12-42	SHOULDER
0010	438+45 -	439+75	LT	22	B-12-42	SHOULDER
0010	646+98 -	647+81	LT	20	B-12-43	SHOULDER
0010	647+08 -	647+91	RT	16	B-12-43	SHOULDER
0010	648+73 -	649+56	LT	17	B-12-43	SHOULDER
0010	648+82 -	649+65	RT	26	B-12-43	SHOULDER
0010	778+81 -	779+15	LT	17	B-12-45	SHOULDER
0010	778+81 -	779+15	RT	29	B-12-45	SHOULDER
0010	780+14 -	780+47	LT	19	B-12-45	SHOULDER
0010	780+14 -	780+47	RT	34	B-12-45	SHOULDER
TOTAL 0010				424		

CONCRETE PAVEMENT 6-INCH

415.0060						
CATEGORY	STATION TO	STATION	LOCATION	WIDTH FT	LENGTH FT	REMARKS
0010	437+08 -	437+24	RT	6	16	B-12-42 - SHOULDER ALONG WING
0010	437+24 -	437+37	LT	6	13	B-12-42 - SHOULDER ALONG WING
0010	438+33 -	438+47	RT	6	14	B-12-42 - SHOULDER ALONG WING
0010	438+46 -	438+62	LT	6	16	B-12-42 - SHOULDER ALONG WING
TOTAL 0010				40.0		

CONCRETE PAVEMENT APPROACH SLAB

415.0410						
CATEGORY	STATION TO	STATION	SKEW	WIDTH FT	LENGTH FT	REMARKS
0010	328+82 -	328+98	0°	24	16	PER S.D.D. 13B2-6
0010	329+78 -	329+94	0°	24	16	PER S.D.D. 13B2-6
0010	437+09 -	437+31	20°	24	15-28	PER S.D.D. 13B2-6
0010	438+39 -	438+62	20°	24	16-29	PER S.D.D. 13B2-6
0010	647+65 -	647+86	15°	24	16-26	PER S.D.D. 13B2-6
0010	648+78 -	649+00	15°	24	15-27	PER S.D.D. 13B2-6
0010	778+99 -	779+15	0°	24	16	PER S.D.D. 13B2-6
0010	780+13 -	780+29	0°	24	16	PER S.D.D. 13B2-6
TOTAL 0010					384	

TACK COAT

455.0605

CATEGORY	STATION	TO	STATION	LOCATION	GAL	REMARKS
0010	328+10	-	328+82	ML	5.0	B-12-41
0010	328+82	-	328+98	LT & RT SHLD	0.5	B-12-41
0010	329+78	-	329+94	LT & RT SHLD	0.5	B-12-41
0010	329+94	-	330+65	ML	5.0	B-12-41
0010	435+10	-	437+09	ML	13.5	B-12-42
0010	435+10	-	437+09	RT SHLD	3.5	B-12-42
0010	435+10	-	437+24	LT SHLD	3.5	B-12-42
0010	438+39	-	438+62	LT & RT SHLD	1.0	B-12-42
0010	438+47	-	439+66	RT SHLD	2.0	B-12-42
0010	438+62	-	440+41	LT SHLD	3.0	B-12-42
0010	438+62	-	440+41	ML	12.0	B-12-42
0010	439+66	-	440+41	RT SHLD	0.5	B-12-42
0010	646+90	-	647+65	ML	7.5	B-12-43
0010	647+65	-	647+86	LT & RT SHLD	1.0	B-12-43
0010	648+75	-	648+99	LT & RT SHLD	1.0	B-12-43
0010	648+99	-	649+65	ML	7.0	B-12-43
0010	778+50	-	778+99	ML	5.0	B-12-45
0010	778+99	-	779+15	LT & RT SHLD	0.5	B-12-45
0010	780+13	-	780+29	LT & RT SHLD	0.5	B-12-45
0010	780+29	-	780+80	ML	5.0	B-12-45
TOTAL 0010					77.5	

* PAY PLAN QUANTITY

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ASPHALTIC SURFACE

465.0105

CATEGORY	STATION TO	STATION	LOCATION	TON	REMARKS
0010	328+10 -	328+82	ML	22.00	B-12-41
0010	328+82 -	328+98	LT & RT SHLD	2.50	B-12-41
0010	329+78 -	329+94	LT & RT SHLD	2.50	B-12-41
0010	329+94 -	330+65	ML	21.50	B-12-41
0010	435+10 -	437+09	ML	60.00	B-12-42
0010	435+10 -	437+09	RT SHLD	15.00	B-12-42
0010	435+10 -	437+24	LT SHLD	16.00	B-12-42
0010	438+39 -	438+62	LT & RT SHLD	3.50	B-12-42
0010	438+47 -	439+66	RT SHLD	9.00	B-12-42
0010	438+62 -	440+41	LT SHLD	13.50	B-12-42
0010	438+62 -	440+41	ML	54.00	B-12-42
0010	439+66 -	440+41	RT SHLD	2.00	B-12-42
0010	646+90 -	647+65	ML	34.00	B-12-43
0010	647+65 -	647+86	LT & RT SHLD	3.00	B-12-43
0010	648+75 -	648+99	LT & RT SHLD	4.00	B-12-43
0010	648+99 -	649+65	ML	30.00	B-12-43
0010	778+50 -	778+99	ML	22.00	B-12-45
0010	778+99 -	779+15	LT & RT SHLD	2.50	B-12-45
0010	780+13 -	780+29	LT & RT SHLD	2.50	B-12-45
0010	780+29 -	780+80	ML	23.00	B-12-45
TOTAL 0010				342.5	

ADJUSTING INLET COVERS

611.8115

CATEGORY	STATION	LOCATION	EACH	REMARKS
0010	437+22	17 FT LT	1	B-12-42
0010	437+05	16 FT RT	1	B-12-42
0010	440+02	16 FT RT	1	
TOTAL 0010			3	

ASPHALTIC FLUMES

465.0315

CATEGORY	STATION	LOCATION	STRUCTURE	SY	REMARKS
0010	328+99	LT	B-12-41	10	B-12-41
0010	328+99	RT	B-12-41	10	B-12-41
0010	329+78	LT	B-12-41	10	B-12-41
0010	329+78	RT	B-12-41	10	B-12-41
0010	647+81	LT	B-12-43	10	B-12-42
0010	647+91	RT	B-12-43	10	B-12-42
0010	648+73	LT	B-12-43	10	B-12-42
0010	648+82	RT	B-12-43	10	B-12-42
0010	779+15	LT	B-12-45	10	B-12-45
0010	779+15	RT	B-12-45	10	B-12-45
0010	780+14	LT	B-12-45	10	B-12-45
0010	780+14	RT	B-12-45	10	B-12-45
TOTAL 0010				40	

CONCRETE CURB & GUTTER 30-INCH TYPE D

601.0411

CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
0010	437+10 -	437+24	RT	14	B-12-42
0010	437+20 -	437+37	LT	17	B-12-42
0010	438+33 -	438+47	RT	14	B-12-42
TOTAL 0010				45	

DRILLED TIE BARS

416.0610

CATEGORY	STATION	LOCATION	EACH	REMARKS
0010	440+41	RT	5	EXISTING CONCRETE BARRIER WALL
TOTAL 0010			5	

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<u>603.CONCRETE BARRIER TEMPORARY PRECAST</u>								<u>RIPRAP HEAVY</u>					
								606.0300					
				603.8000	603.8125								
				CONCRETE BARRIER	CONCRETE BARRIER								
				TEMPORARY PRECAST	TEMPORARY PRECAST								
				DELIVERED	INSTALLED								
CATEGORY	STATION TO	STATION	LOCATION	LF	LF	STRUCTURE	REMARKS	CATEGORY	STATION	LOCATION	STRUCTURE	CY	REMARKS
0010	327+40.5 -	330+78	LT	337.5	337.5	B-12-41	PHASE 1	0010	328+99	LT	B-12-41	3	ASPHALTIC FLUMES
0010	327+40.5 -	330+78	RT		337.5	B-12-41	PHASE 2	0010	328+99	RT	B-12-41	3	ASPHALTIC FLUMES
0010	436+20.5 -	439+83	LT	362.5	362.5	B-12-42	PHASE 3	0010	329+78	LT	B-12-41	3	ASPHALTIC FLUMES
0010	435+77.5 -	439+40	RT		362.5	B-12-42	PHASE 4	0010	329+78	RT	B-12-41	3	ASPHALTIC FLUMES
0010	646+45.5 -	650+33	LT	387.5	387.5	B-12-43	PHASE 1	0010	647+81	LT	B-12-43	3	ASPHALTIC FLUMES
0010	645+85.5 -	649+73	RT		387.5	B-12-43	PHASE 2	0010	647+91	RT	B-12-43	3	ASPHALTIC FLUMES
0010	778+14 -	781+64	LT	350	350	B-12-45	PHASE 3	0010	648+73	LT	B-12-43	3	ASPHALTIC FLUMES
0010	777+64 -	781+14	RT		350	B-12-45	PHASE 4	0010	648+82	RT	B-12-43	3	ASPHALTIC FLUMES
TOTAL 0010				350	700					TOTAL 0010	12		
<u>SAWING ASPHALT</u>								<u>GEOTEXTILE FABRIC TYPE HR</u>					
690.0150								645.0120					
CATEGORY	STATION	LOCATION	LF	REMARKS				CATEGORY	STATION	LOCATION	STRUCTURE	SY	REMARKS
0010	328+10	B-12-41	36	TRANSVERSE CUT				0010	328+98.49	LT	B-12-41	12	ASPHALTIC FLUMES
0010	328+82	B-12-41	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	328+98.49	RT	B-12-41	12	ASPHALTIC FLUMES
0010	329+94	B-12-41	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	329+77.92	LT	B-12-41	12	ASPHALTIC FLUMES
0010	330+65	B-12-41	36	TRANSVERSE CUT				0010	329+77.92	RT	B-12-41	12	ASPHALTIC FLUMES
0010	435+40	B-12-42	36	TRANSVERSE CUT				0010	647+81	LT	B-12-43	12	ASPHALTIC FLUMES
0010	437+09	B-12-42	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	647+91	RT	B-12-43	12	ASPHALTIC FLUMES
0010	438+62	B-12-42	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	648+73	LT	B-12-43	12	ASPHALTIC FLUMES
0010	439+80	B-12-42	36	TRANSVERSE CUT				0010	648+82	RT	B-12-43	12	ASPHALTIC FLUMES
0010	646+90	B-12-43	36	TRANSVERSE CUT				0010	779+14.92	LT	B-12-45	12	ASPHALTIC FLUMES
0010	647+65	B-12-43	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	779+14.92	RT	B-12-45	12	ASPHALTIC FLUMES
0010	648+99	B-12-43	24	TRANSVERSE CUT FOR APPROACH SLAB				0010	780+13.94	LT	B-12-45	12	ASPHALTIC FLUMES
0010	649+70	B-12-43	36	TRANSVERSE CUT				0010	780+13.94	RT	B-12-45	12	ASPHALTIC FLUMES
0010	778+80	B-12-45	36	TRANSVERSE CUT FOR APPROACH SLAB				TOTAL 0010					
0010	778+99	B-12-45	24	TRANSVERSE CUT FOR APPROACH SLAB				144					
0010	780+29	B-12-45	24	TRANSVERSE CUT									
0010	780+50	B-12-45	36	TRANSVERSE CUT									
TOTAL 0010			480										

STATE PROJECT NO:	5160-00-63	HWY	STH 35	COUNTY:	CRAWFORD	MISCELLANEOUS QUANTITIES	SHEET NO:	E
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BARRIER SYSTEM GRADING SHAPING FINISHING

STRUCTURES	STATION TO	STATION	LOCATION	614.0010 EACH	*FILL CY	*TOPSOIL SY	*SEED MIX NO. 30 LB	*SEEDING TEMPORARY LB	*FERT CWT	*MULCH SY	REMARKS
B-12-41	328+15 -	328+98	LT	1	34	106	5	10	0.09	106	
B-12-41	328+15 -	328+98	RT	1	5	40	2	4	0.04	40	
B-12-41	329+78 -	330+61	LT	1	9.5	75	3.5	7	0.07	75	
B-12-41	329+78 -	330+55	RT	1	3	20	1	2	0.02	20	
B-12-42	435+28 -	437+20	LT	1	32	158	6.5	13	0.13	158	
B-12-42	435+41 -	437+10	RT	1	32	44	2	4	0.04	44	
B-12-42	438+62 -	438+78	LT	1	4.2	12	1	2	0.02	12	
B-12-43	646+97 -	647+47	LT	1	16	73	3	6	0.06	73	
B-12-43	647+07 -	647+57	RT	1	9	51	2	4	0.05	51	
B-12-43	649+06 -	649+65	LT	1	22	70	3	6	0.06	70	
B-12-43	649+15 -	649+65	RT	1	15	83	3.5	7	0.07	83	
TOTAL 0010				11	181.70	732.00	32.50	65.00	0.65	732.00	

* FOR INFORMATIONAL PURPOSES ONLY.

PAVEMENT MARKING EPOXY 4-INCH

CATEGORY	STATION TO	STATION	EDGE LINE SOLID WHITE LT. LF	EDGE LINE SOLID WHITE RT. LF	C/L DASHED YELLOW LT. LF	C/L SOLID NO PASSING YELLOW LT. LF	C/L SOLID NO PASSING YELLOW RT. LF	STRUCTURE	646.0106 LF	REMARKS
0010	328+10 -	330+65	255	255				B-12-41	510	
0010	328+10 -	329+78				168	168	B-12-41	336	
0010	329+78 -	330+65			22		87	B-12-41	109	
0010	435+40 -	440+44	504	504	126		504	B-12-42	1638	
0010	646+90 -	649+70	280	280		280	280	B-12-43	1120	
0010	778+80 -	780+50	170	170		170	170	B-12-45	680	
TOTAL 0010									4,393	

614.BEAMGUARD

CATEGORY	STRUCTURE	STATION TO	STATION	LOCATION	614.0200	614.0305	614.0370	614.0390	614.0515	REMARKS
					STEEL THRIE BEAM STRUCTURE APPROACH LF	STEEL PLATE BEAM GUARD CLASS A LF	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	GUARDRAIL STIFFENED LHW LF	
0010	B-12-41	328+15.34	-	328+65.34	LT		1			
0010	B-12-41	328+15.34	-	328+65.34	RT		1			
0010	B-12-41	328+65.34	-	328+77.84	LT	12.5				
0010	B-12-41	328+65.34	-	328+77.84	RT	12.5				
0010	B-12-41	328+77.84	-	328+98.49	LT	20.65				
0010	B-12-41	328+77.84	-	328+98.49	RT	20.65				
0010	B-12-41	329+77.92	-	329+98.57	LT	20.65				
0010	B-12-41	329+77.92	-	329+98.57	RT	20.65				
0010	B-12-41	329+98.57	-	330+11.07	LT	12.5				
0010	B-12-41	329+98.57	-	330+48.57	RT	50				
0010	B-12-41	330+11.07	-	330+61.07	LT		1			
0010	B-12-41	330+48.57	-	330+55.3	RT			1		RADIUS= 68.5 FT LENGTH = 38 FT
0010	B-12-42	435+28.85	-	435+78.85	LT		1			
0010	B-12-42	435+78.85	-	437+16.35	LT	137.5				
0010	B-12-42	436+41.35	-	436+91.35	RT		1			
0010	B-12-42	436+91.35	-	437+03.85	RT	12.5				
0010	B-12-42	437+03.85	-	437+24.5	RT	20.65				
0010	B-12-42	437+16.35	-	437+37	LT	20.65				
0010	B-12-42	438+33	-	438+53.65	RT	20.65				
0010	B-12-42	438+45	-	438+65.65	LT	20.65				
0010	B-12-42	438+53.65	-	439+53.65	RT	100				
0010	B-12-42	438+65.65	-	438+78.15	LT	12.5				
0010		438+66		439+41	RT	75				
0010		439+41	-	439+61	RT	20.65				CONCRETE BARRIER WALL
0010	B-12-43	646+97.85	-	647+47.85	LT		1			
0010	B-12-43	647+07.85	-	647+57.85	RT		1			
0010	B-12-43	647+47.85	-	647+60.35	LT	12.5				
0010	B-12-43	647+57.85	-	647+70.35	RT	12.5				
0010	B-12-43	647+60.35	-	647+81	LT	20.65				
0010	B-12-43	647+70.35	-	647+91	RT	20.65				
0010	B-12-43	648+73	-	648+93.65	LT	20.65				
0010	B-12-43	648+82	-	649+02.65	RT	20.65				
0010	B-12-43	648+93.65	-	649+06.15	LT	12.5				
0010	B-12-43	649+02.65	-	649+15.15	RT	12.5				
0010	B-12-43	649+06.15	-	649+56.15	LT		1			
0010	B-12-43	649+15.15	-	649+65.15	RT		1			
0010	B-12-45	778+81.71	-	778+94.21	LT				12.5	
0010	B-12-45	778+81.71	-	778+94.21	RT				12.5	
0010	B-12-45	778+94.21	-	779+14.92	LT	20.65				
0010	B-12-45	778+94.21	-	779+14.92	RT	20.65				
0010	B-12-45	780+13.94	-	780+34.59	LT	20.65				
0010	B-12-45	780+13.94	-	780+34.59	RT	20.65				
0010	B-12-45	780+34.59	-	780+47.09	LT				12.5	
0010	B-12-45	780+34.59	-	780+47.09	RT				12.5	
TOTAL 0010					351.05	475.00	9	1	50	

3

WATER							628.SILT FENCE											
624.0100							628.1504							628.1520				
CATEGORY	STATION	TO	STATION	LOCATION	MGAL	STRUCTURE	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE LF	SILT FENCE MAINTENANCE LF	STRUCTURE	REMARKS		
0010	328+16	-	328+99	LT	0.30	B-12-41	SHOULDER	0010	328+15	-	328+99	LT	84	168	B-12-41			
0010	328+16	-	328+99	RT	0.30	B-12-41	SHOULDER	0010	328+15	-	328+99	RT	84	168	B-12-41			
0010	329+78	-	330+61	LT	0.30	B-12-41	SHOULDER	0010	329+78	-	330+61	LT	83	166	B-12-41			
0010	329+78	-	330+61	RT	0.30	B-12-41	SHOULDER	0010	329+78	-	330+55	RT	83	166	B-12-41			
0010	436+41	-	437+25	RT	0.30	B-12-42	SHOULDER	0010				SW QUAD	50	100	B-12-41	ASPHALTIC FLUME		
0010	435+50	-	437+38	LT	0.60	B-12-42	SHOULDER	0010				SE QUAD	50	100	B-12-41	ASPHALTIC FLUME		
0010	438+33	-	439+74	RT	0.50	B-12-42	SHOULDER	0010				NE QUAD	50	100	B-12-41	ASPHALTIC FLUME		
0010	438+45	-	439+75	LT	0.50	B-12-42	SHOULDER	0010				NW QUAD	50	100	B-12-41	ASPHALTIC FLUME		
0010	646+98	-	647+81	LT	0.30	B-12-43	SHOULDER	0010	436+41	-	437+25	RT	84	168	B-12-42			
0010	647+08	-	647+91	RT	0.30	B-12-43	SHOULDER	0010	435+28	-	437+37	LT	209	418	B-12-42			
0010	648+73	-	649+56	LT	0.30	B-12-43	SHOULDER	0010	438+33	-	439+75	RT	142	284	B-12-42			
0010	648+82	-	649+65	RT	0.30	B-12-43	SHOULDER	0010	438+45	-	438+78	LT	33	66	B-12-42			
0010	778+81	-	779+15	LT	0.30	B-12-45	SHOULDER	0010	646+97	-	647+81	LT	84	168	B-12-43			
0010	778+81	-	779+15	RT	0.30	B-12-45	SHOULDER	0010	647+07	-	647+91	RT	84	168	B-12-43			
0010	780+14	-	780+47	LT	0.30	B-12-45	SHOULDER	0010	648+73	-	649+56	LT	83	166	B-12-43			
0010	780+14	-	780+47	RT	0.30	B-12-45	SHOULDER	0010	648+82	-	649+65	RT	83	166	B-12-43			
TOTAL 0010					5.50													
											0010			SW QUAD	50	100	B-12-43	ASPHALTIC FLUME
											0010			SE QUAD	50	100	B-12-43	ASPHALTIC FLUME
											0010			NE QUAD	50	100	B-12-43	ASPHALTIC FLUME
											0010			NW QUAD	50	100	B-12-43	ASPHALTIC FLUME
											0010			SW QUAD	50	100	B-12-45	ASPHALTIC FLUME
											0010			SE QUAD	50	100	B-12-45	ASPHALTIC FLUME
											0010			NE QUAD	50	100	B-12-45	ASPHALTIC FLUME
											0010			NW QUAD	50	100	B-12-45	ASPHALTIC FLUME
											TOTAL 0010		1736	3472				

CONCRETE BARRIER TRANSITION SECTION 32-INCH

CONCRETE BARRIER SINGLE-FACED 32-INCH

603.0405							603.0105							
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS	CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS	
0010	439+55	-	439+62	RIGHT	7.00	NORTH OF B-12-42	0010	439+62	-	440+41	RT	79	NORTH OF B-12-42	
TOTAL 0010					7.00	TOTAL 0010							79	

STATE PROJECT NO:		5160-00-63	HWY		STH 35	COUNTY:		CRAWFORD	MISCELLANEOUS QUANTITIES		SHEET NO:		E
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TRAFFIC CONTROL WARNING LIGHTS TYPE C

				NO.		643.0715			
CATEGORY	STATION	TO	STATION	LT/RT	LIGHTS	DAY	STRUCTURE	REMARKS	
0010	327+48	-	327+98	RT	5	105	B-12-41	PHASE 1	
0010	327+48	-	327+98	LT	5	110	B-12-41	PHASE 2	
0010	330+28	-	330+78	RT	5	105	B-12-41	PHASE 1	
0010	330+28	-	330+78	LT	5	110	B-12-41	PHASE 2	
0010	436+24	-	436+75	RT	5	170	B-12-42	PHASE 4	
0010	436+24	-	436+74	LT	5	145	B-12-42	PHASE 3	
0010	439+33	-	439+83	RT	5	170	B-12-42	PHASE 4	
0010	439+33	-	439+83	LT	5	145	B-12-42	PHASE 3	
0010	646+92	-	647+42	RT	5	105	B-12-43	PHASE 1	
0010	646+31	-	646+81	LT	5	110	B-12-43	PHASE 2	
0010	649+85	-	650+35	RT	5	105	B-12-43	PHASE 1	
0010	649+23	-	649+73	LT	5	110	B-12-43	PHASE 2	
0010	777+65	-	778+15	RT	5	170	B-12-45	PHASE 4	
0010	778+15	-	778+65	LT	5	145	B-12-45	PHASE 3	
0010	780+64	-	781+14	RT	5	170	B-12-45	PHASE 4	
0010	781+15	-	781+65	LT	5	145	B-12-45	PHASE 3	
TOTAL 0010					2,120				

CRASH CUSHIONS TEMPORARY

614.0905						
CATEGORY	STATION	TO	STATION	LOCATION	EACH	REMARKS
0010	327+36.5	-	327+48	LT	1	PHASE 1 B-12-41
0010	330+78	-	330+89.5	LT	1	PHASE 1 B-12-41
0010	327+36.5	-	327+48	RT	1	PHASE 2 B-12-41
0010	330+78	-	330+89.5	RT	1	PHASE 2 B-12-41
0010	436+12.5	-	436+24	LT	1	PHASE 3 B-12-42
0010	439+83	-	439+94.5	LT	1	PHASE 3 B-12-42
0010	435+75.5	-	435+87	RT	1	PHASE 4 B-12-42
0010	439+40	-	439+51.5	RT	1	PHASE 4 B-12-42
0010	646+39.5	-	646+51	LT	1	PHASE 1 B-12-43
0010	650+33	-	650+44.5	LT	1	PHASE 1 B-12-43
0010	646+19.5	-	646+31	RT	1	PHASE 2 B-12-43
0010	649+73	-	649+84.5	RT	1	PHASE 2 B-12-43
0010	778+03.5	-	778+15	LT	1	PHASE 3 B-12-45
0010	781+64	-	781+75.5	LT	1	PHASE 3 B-12-45
0010	777+63.5	-	777+65	RT	1	PHASE 4 B-12-45
0010	781+14	-	781+25.5	RT	1	PHASE 4 B-12-45
TOTAL 0010					16	

TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH

				649.1400			
CATEGORY	STATION	LT/RT	LF	STRUCTURE	REMARKS		
0010	326+58	RT	12	B-12-41	PHASE 1 & 2		
0010	331+68	LT	12	B-12-41	PHASE 1 & 2		
0010	434+97	RT	12	B-12-42	PHASE 3		
0010	435+34	RT	12	B-12-42	PHASE 4		
0010	440+36	LT	12	B-12-42	PHASE 3		
0010	440+73	LT	12	B-12-42	PHASE 4		
0010	645+41	RT	12	B-12-43	PHASE 1		
0010	645+96	RT	12	B-12-43	PHASE 2		
0010	651+25	LT	12	B-12-43	PHASE 1		
0010	651+63	LT	12	B-12-43	PHASE 2		
0010	772+05	RT	12	B-12-45	PHASE 3		
0010	776+75	RT	12	B-12-45	PHASE 4		
0010	782+04	LT	12	B-12-45	PHASE 3		
0010	782+54	LT	12	B-12-45	PHASE 4		
TOTAL 0010			168				

REMOVING PAVEMENT MARKINGS

					646.0600		
CATEGORY	STATION	TO	STATION	LOCATION	LF	STRUCTURE	REMARKS
0010	326+58	-	327+98	CL	140	B-12-41	PHASE 1
0010	330+28	-	331+68	CL	140	B-12-41	PHASE 2
0010	434+34	-	436+37	CL	140	B-12-42	PHASE 3
0010	438+82	-	440+73	CL	204	B-12-42	PHASE 4
0010	645+41	-	647+41	CL	200	B-12-43	PHASE 1
0010	650+48	-	651+23	CL	199	B-12-43	PHASE 2
0010	772+05	-	778+15	CL	140	B-12-45	PHASE 3
0010	780+63	-	782+54	CL	190	B-12-45	PHASE 4
TOTAL 0010					<u>1,353</u>		

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TYPE II SIGNS												
CATEGORY	SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE	DESCRIPTION	ORDER LINE	634.0616 POST WOOD 4X6 INCH X 16 -FT EACH	637.0202 SIGN REFLECTIVE TYPE II SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	1-01	330+20	STH 35, LEFT	I55-56	30" x 36"	ADOPT A HIGHWAY	EMPLOYEES OF CABELAS PRAIRIE DU CHIEN	1	7.50			
0010	1-02R	330+20	STH 35, LEFT	I55-56	30" x 36"	ADOPT A HIGHWAY	EMPLOYEES OF CABELAS PRAIRIE DU CHIEN			1	1	
0010	1-03R	330+15	STH 35, RIGHT	I55-56	30" x 36"	ADOPT A HIGHWAY	HOLY TRINITY EPISCOPAL CHURCH PRAIRIE DU CHIEN					
0010	1-04R	330+15	STH 35, RIGHT	W14-3	48" x 36"	NO PASSING ZONE				1	1	
0010	1-05	330+20	STH 35, RIGHT	W14-3	48" x 36"	NO PASSING ZONE		1	6.00	1		
0010	1-06	332+00	STH 35, RIGHT	I55-56	30" x 36"	ADOPT A HIGHWAY	HOLY TRINITY EPISCOPAL CHURCH PRAIRIE DU CHIEN	1	7.50			
0010	2-01	436+65	STH 35, LEFT	I55-56	30" x 36"	ADOPT A HIGHWAY	HOLY TRINITY EPISCOPAL CHURCH PRAIRIE DU CHIEN	1	7.50			
0010	2-02R	436+65	STH 35, LEFT	I55-56	30" x 36"	ADOPT A HIGHWAY	HOLY TRINITY EPISCOPAL CHURCH PRAIRIE DU CHIEN			1	1	
TOTAL 0010								4	28.50	4	3	

TRAFFIC CONTROL DRUMS

NO. 643.0300								
CATEGORY	STATION TO	STATION	LT/RT	DRUMS	DAY	PHASE	STRUCTURE	REMARKS
0010	323+70 -	328+98	RT	10	210	1	B-12-41	
0010	323+70 -	328+98	LT	10	220	2	B-12-41	
0010	326+58 -	327+98	RT	10	210	1	B-12-41	
0010	326+58 -	327+98	LT	10	220	2	B-12-41	
0010	329+78 -	335+06	RT	10	210	1	B-12-41	
0010	329+78 -	335+06	LT	10	220	2	B-12-41	
0010	330+28 -	331+68	RT	10	210	1	B-12-41	
0010	330+28 -	331+68	LT	10	220	2	B-12-41	
0010	431+04 -	437+38	LT	10	340	4	B-12-42	
0010	433+46 -	437+40	RT	10	290	3	B-12-42	
0010	434+97 -	436+37	RT	10	290	3	B-12-42	
0010	435+34 -	436+74	LT	10	340	4	B-12-42	
0010	438+33 -	444+19	RT	11	319	3	B-12-42	
0010	438+36 -	440+30	RT	10	290	3	B-12-42	
0010	438+39 -	442+85	LT	9	306	4	B-12-42	
0010	439+39 -	440+80	LT	10	340	4	B-12-42	
0010	433+12 -	442+41	RT	15	435	3	B-12-42	SHOULDER
0010	642+53 -	647+81	LT	10	220	2	B-12-43	
0010	642+62 -	647+91	RT	10	210	1	B-12-43	
0010	645+41 -	646+81	RT	10	210	1	B-12-43	
0010	645+51 -	646+91	LT	10	220	2	B-12-43	
0010	648+73 -	651+01	LT	10	220	2	B-12-43	
0010	648+82 -	654+10	RT	10	210	1	B-12-43	
0010	649+23 -	650+63	RT	10	210	1	B-12-43	
0010	649+35 -	650+75	LT	10	220	2	B-12-43	
0010	642+53 -	647+81	LT	10	340	4	B-12-45	
0010	642+62 -	647+91	RT	10	290	3	B-12-45	
0010	645+41 -	646+81	RT	10	290	3	B-12-45	
0010	645+51 -	646+91	LT	10	340	4	B-12-45	
0010	648+73 -	651+01	LT	10	340	4	B-12-45	
0010	648+82 -	654+10	RT	10	290	3	B-12-45	
0010	649+23 -	650+63	RT	10	290	3	B-12-45	
0010	649+35 -	650+75	LT	10	340	4	B-12-45	
TOTAL 0010					8,910			

TRAFFIC CONTROL BARRICADES TYPE III

NO. 643.0420						
CATEGORY	STATION	LT/RT	BARRICADES	DAY	STRUCTURE	REMARKS
0010	327+98	LT	1	22	B-12-41	PHASE 2
0010	330+28	RT	1	21	B-12-41	PHASE 1
0010	430+97	LT	3	417	B-12-42	PULL OUT DRIVEWAY CLOSED ACROSS FROM CTH D - ALL PHASES
0010	438+90	LT	1	29	B-12-42	PHASE 3
0010	436+75	RT	1	34	B-12-42	PHASE 4
0010	649+23	LT	1	21	B-12-43	PHASE 1
0010	647+41	RT	1	22	B-12-43	PHASE 2
0010	651+00	LT	4	556	B-12-43	SOUTH PULL OUT DRIVEWAY CLOSED - ALL PHASES
0010	655+00	LT	4	556	B-12-43	NORTH PULL OUT DRIVEWAY CLOSED - ALL PHASES
0010	780+64	RT	1	34	B-12-45	PHASE 4
0010	778+65	LT	1	29	B-12-45	PHASE 3
TOTAL 0010				1,719		

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TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH										
CATEGORY	STATION TO	STATION	LT/RT	EDGE LINE	EDGE LINE	C/L	C/L	649.0400	STRUCTURE	REMARKS
				SOLID	SOLID	SOLID	SOLID			
				WHITE	WHITE	NO PASSING	NO PASSING			
				LT	RT	YELLOW	YELLOW			
				LF	LF	LF	LF	LF		
0010	327+43 -	330+83	LT	340				340	B-12-41	PHASE 1
0010	327+43 -	330+83	RT		340			340	B-12-41	PHASE 2
0010	331+43 -	338+43	LT			700		700	B-12-41	PHASE 1
0010	331+68 -	338+68	LT			700		700	B-12-41	PHASE 2
0010	427+97 -	434+97	RT				700	700	B-12-42	PHASE 3
0010	428+34 -	435+34	RT				700	700	B-12-42	PHASE 4
0010	435+82 -	439+51	LT	307				307	B-12-42	PHASE 3
0010	436+19 -	439+88	RT		307			307	B-12-42	PHASE 4
0010	440+36 -	447+36	LT			700		700	B-12-42	PHASE 3
0010	440+37 -	447+37	LT			700		700	B-12-42	PHASE 4
0010	646+26 -	649+78	LT	290				290	B-12-43	PHASE 1
0010	646+87 -	650+40	RT		290			290	B-12-43	PHASE 2
0010	777+60 -	781+19	LT	297				297	B-12-45	PHASE 3
0010	778+10 -	781+69	RT		297			297	B-12-45	PHASE 4
TOTAL 0010								6,668		

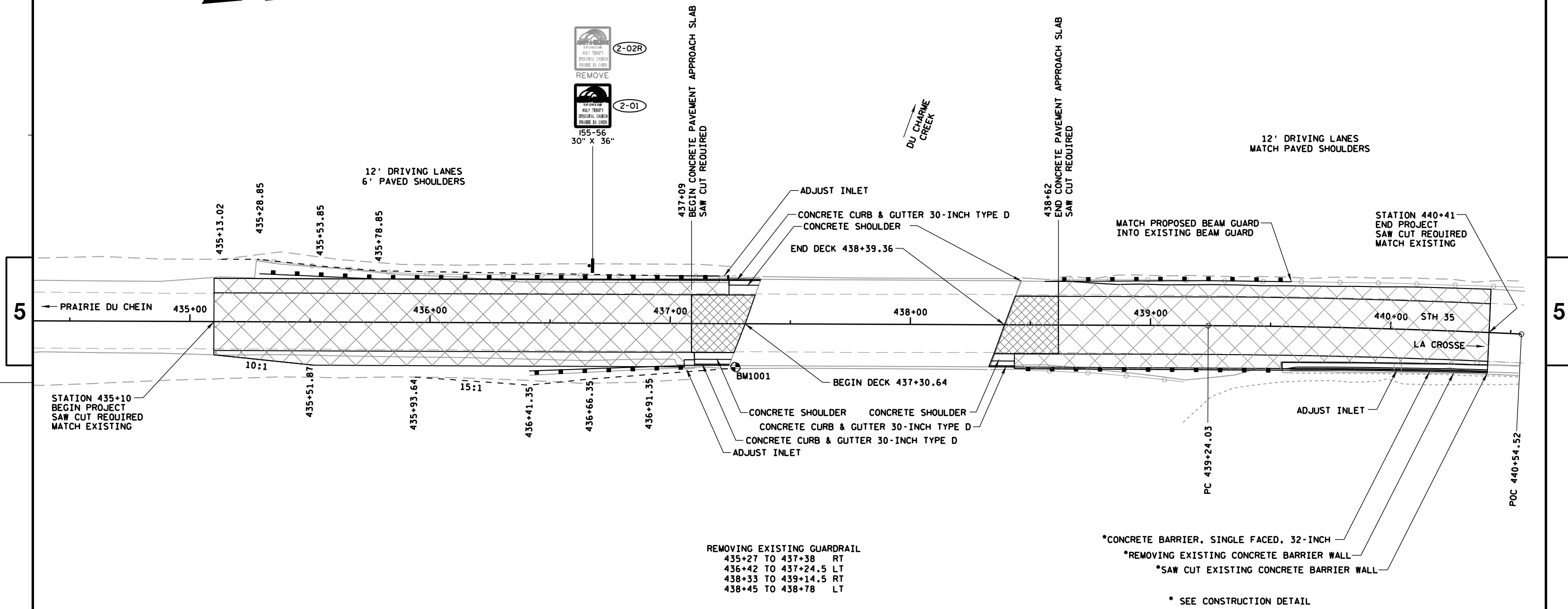
SAWING CONCRETE				
CATEGORY	STATION	LOCATION	690.0250	REMARKS
			LF	
0010	440+58	RT	12	CONCRETE BARRIER SLOPED END NEAR B-12-42
TOTAL 0010			12	

TRAFFIC CONTROL SIGNS									
CATEGORY	STATION	LT/RT	SIGN CODE	PHASE	EACH	643.0900 DAY	STRUCTURE / LOCATION	REMARKS	
0010	STH 27		W12-52	ALL	1	139	B-12-41	MAX WIDTH 14 FT	
0010	STH 27		W057--52	ALL	1	139	B-12-41	6.3 MILES AHEAD	
0010	-	RT	W20-1	1 & 2	1	43	B-12-41		
0010	-	RT	W12-52	1 & 2	1	43	B-12-41		
0010	-	RT	W20-4	1 & 2	1	43	B-12-41		
0010	-	LT	W14-3	1 & 2	1	43	B-12-41		
0010	-	RT	W03-3	1 & 2	1	43	B-12-41		
0010	-	LT	W03-3	1 & 2	1	43	B-12-41		
0010	-	LT	W03-3	1 & 2	1	43	B-12-41		
0010	-	LT	G20-2A	1 & 2	1	43	B-12-41		
0010	326+58	RT	R10-6	1 & 2	1	43	B-12-41		
0010	328+95	RT	W01-4R	1 & 2	1	43	B-12-41		
0010	327+98	LT	W5-52L	1 & 2	1	43	B-12-41		
0010	328+98	RT	W5-52R	1 & 2	1	43	B-12-41		
0010	330+28	LT	W5-52R	1 & 2	1	43	B-12-41		
0010	329+78	RT	W5-52L	1 & 2	1	43	B-12-41		
0010	330+28	LT	W01-6	1 & 2	1	43	B-12-41		
0010	327+98	RT	W5-52R	1 & 2	1	43	B-12-41		
0010	327+95	RT	W01-6	1 & 2	1	43	B-12-41		
0010	328+98	LT	W5-52L	1 & 2	1	43	B-12-41		
0010	329+78	LT	W5-52R	1 & 2	1	43	B-12-41		
0010	330+28	RT	W5-52L	1 & 2	1	43	B-12-41		
0010	329+80	LT	W01-4R	1 & 2	1	43	B-12-41		
0010	331+68	LT	R10-6	1 & 2	1	43	B-12-41		
0010	-	RT	G20-2A	1 & 2	1	43	B-12-41		
0010	-	RT	W03-3	1 & 2	1	43	B-12-41		
0010	-	LT	W03-3	1 & 2	1	43	B-12-41		
0010	-	RT	W14-3	1 & 2	1	43	B-12-41		
0010	-	LT	W20-4	1 & 2	1	43	B-12-41		
0010	-	LT	W12-52	1 & 2	1	43	B-12-41	MAX WIDTH 14 FT	
0010	-	LT	W20-1	1 & 2	1	43	B-12-41		
0010	-	RT	W20-1	1 & 2	1	43	B-12-41		
0010	-	RT	W20-1	3	1	29	PICATEE CREEK RD B-12-42		
0010	-	RT	W12-52	3	1	29	B-12-42	MAX WIDTH 14 FT	
0010	-	RT	W20-4	3	1	29	B-12-42		
0010	-	LT	W14-3	3	1	29	B-12-42		
0010	-	RT	W03-3	3	1	29	B-12-42		
0010	-	LT	W03-3	3	1	29	B-12-42		
0010	-	LT	G20-2A	3	1	29	B-12-42		
0010	434+97	RT	R10-6	3	1	29	B-12-42		
0010	437+20	RT	W01-4-R	3	1	29	B-12-42		
0010	436+37	LT	W5-52L	3	1	29	B-12-42		
0010	437+24	RT	W5-52R	3	1	29	B-12-42		
0010	438+96	LT	W5-52R	3	1	29	B-12-42		
0010	438+33	RT	W5-52L	3	1	29	B-12-42		
0010	438+96	LT	W01-6	3	1	29	B-12-42		
0010	440+36	LT	R10-6	3	1	29	B-12-42		
0010	-	RT	G20-2A	3	1	29	B-12-42		
0010	-	RT	W03-3	3	1	29	B-12-42		
0010	-	LT	W03-3	3	1	29	B-12-42		
0010	-	RT	W14-3	3	1	29	B-12-42		
0010	-	LT	W20-4	3	1	29	B-12-42		
0010	-	LT	W12-52	3	1	29	B-12-42		
0010	-	LT	W20-1	3	1	29	B-12-42		
0010	-	RT	W20-1	4	1	34	B-12-42		
0010	-	RT	W12-52	4	1	34	B-12-42		
0010	-	RT	W20-4	4	1	34	B-12-42		
0010	-	LT	W14-3	4	1	34	B-12-42		
0010	-	RT	W03-3	4	1	34	B-12-42		
0010	-	LT	W03-3	4	1	34	B-12-42		
0010	-	LT	G20-2A	4	1	34	B-12-42		
0010	435+34	RT	R10-6	4	1	34	B-12-42		
0010	436+74	RT	W5-52R	4	1	34	B-12-42		
0010	436+78	RT	W01-6	4	1	34	B-12-42		
0010	437+37	LT	W5-52L	4	1	34	B-12-42		
0010	438+46	LT	W5-52R	4	1	34	B-12-42		
0010	438+50	RT	W01-4R	4	1	34	B-12-42		
0010	439+38	RT	W5-52L	4	1	34	B-12-42		
0010	440+73	LT	R10-6	4	1	34	B-12-42		
0010	-	RT	G20-2A	4	1	34	B-12-42		
0010	-	LT	W03-3	4	1	34	B-12-42		
0010	-	RT	W03-3	4	1	34	B-12-42		
0010	-	RT	W14-3	4	1	34	B-12-42		
0010	-	LT	W20-4	4	1	34	B-12-42		
0010	-	LT	W12-52	4	1	34	B-12-42	MAX WIDTH 14 FT	
0010	-	LT	W20-1	4	1	34	B-12-42		
SUBTOTAL 0010						2,911			

TRAFFIC CONTROL SIGNS						CONT.		
CATEGORY	STATION	LT/RT	SIGN CODE	PHASE	EACH	643.0900 DAY	STRUCTURE / LOCATION	REMARKS
0010	-	RT	W20-1	1	1	21	B-12-43	MAX WIDTH 14 FT
0010	-	RT	W12-52	1	1	21	B-12-43	
0010	-	RT	W20-4	1	1	21	B-12-43	
0010	-	LT	W14-3	1	1	21	B-12-43	
0010	-	RT	W03-3	1	1	21	B-12-43	
0010	-	LT	W03-3	1	1	21	B-12-43	
0010	-	LT	G20-2A	1	1	21	B-12-43	
0010	645+41	RT	R10-6	1	1	21	B-12-43	
0010	646+81	LT	W5-52L	1	1	21	B-12-43	
0010	647+88	RT	W01-4R	1	1	21	B-12-43	
0010	647+92	RT	W5-52R	1	1	21	B-12-43	
0010	648+85	RT	W5-52L	1	1	21	B-12-43	
0010	649+20	LT	W01-6	1	1	21	B-12-43	
0010	649+23	LT	W5-52R	1	1	21	B-12-43	
0010	650+63	LT	R10-6	1	1	21	B-12-43	
0010	-	RT	G20-2A	1	1	21	B-12-43	
0010	-	RT	W03-3	1	1	21	B-12-43	
0010	-	LT	W03-3	1	1	21	B-12-43	
0010	-	RT	W14-3	1	1	21	B-12-43	
0010	-	LT	W20-4	1	1	21	B-12-43	
0010	-	LT	W12-52	1	1	21	B-12-43	MAX WIDTH 14 FT
0010	-	LT	W20-1	1	1	21	B-12-43	
0010	-	RT	W20-1	2	1	22	B-12-43	
0010	-	RT	W12-52	2	1	22	B-12-43	MAX WIDTH 14 FT
0010	-	RT	W20-4	2	1	22	B-12-43	
0010	-	LT	W14-3	2	1	22	B-12-43	
0010	-	RT	W03-3	2	1	22	B-12-43	
0010	-	LT	W03-3	2	1	22	B-12-43	
0010	-	LT	G20-2A	2	1	22	B-12-43	
0010	645+97	RT	R10-6	2	1	22	B-12-43	
0010	647+42	RT	W5-52R	2	1	22	B-12-43	
0010	647+45	RT	W01-6	2	1	22	B-12-43	
0010	647+81	LT	W5-52L	2	1	22	B-12-43	
0010	648+73	LT	W5-52R	2	1	22	B-12-43	
0010	648+76	LT	W01-4R	2	1	22	B-12-43	
0010	649+85	RT	W5-52L	2	1	22	B-12-43	
0010	651+25	LT	R10-6	2	1	22	B-12-43	
0010	-	RT	G20-2A	2	1	22	B-12-43	
0010	-	LT	W03-3	2	1	22	B-12-43	
0010	-	RT	W03-3	2	1	22	B-12-43	
0010	-	RT	W14-3	2	1	22	B-12-43	
0010	-	LT	W20-4	2	1	22	B-12-43	
0010	-	LT	W12-52	2	1	22	B-12-43	MAX WIDTH 14 FT
0010	-	LT	W20-1	2	1	22	B-12-43	
SUBTOTAL 0010						946		

TRAFFIC CONTROL SIGNS							CONT.	
CATEGORY	STATION	LT/RT	SIGN CODE	PHASE	EACH	643.0900 DAY	STRUCTURE / LOCATION	REMARKS
0010	-	RT	W20-1	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	-	RT	W12-52	3	1	29	B-12-45	
0010	-	RT	W20-4	3	1	29	B-12-45	
0010	-	LT	W14-3	3	1	29	B-12-45	
0010	-	RT	W03-3	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	-	LT	W03-3	3	1	29	B-12-45	
0010	-	LT	G20-2A	3	1	29	B-12-45	
0010	776+75	RT	R10-6	3	1	29	B-12-45	
0010	778+15	LT	W5-52L	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	779+10	RT	W01-4R	3	1	29	B-12-45	
0010	779+15	RT	W5-52R	3	1	29	B-12-45	
0010	780+14	RT	W5-52L	3	1	29	B-12-45	
0010	780+64	LT	W5-52R	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	780+69	LT	W01-6	3	1	29	B-12-45	
0010	782+04	LT	R10-6	3	1	29	B-12-45	
0010	-	RT	G20-2A	3	1	29	B-12-45	
0010	-	RT	W03-3	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	-	LT	W03-3	3	1	29	B-12-45	
0010	-	RT	W14-3	3	1	29	B-12-45	
0010	-	LT	W20-4	3	1	29	B-12-45	
0010	-	LT	W12-52	3	1	29	B-12-45	MAX WIDTH 14 FT
0010	-	LT	W20-1	3	1	29	B-12-45	
0010	-	RT	W20-1	4	1	34	B-12-45	
0010	-	RT	W12-52	4	1	34	B-12-45	
0010	-	RT	W20-4	4	1	34	B-12-45	MAX WIDTH 14 FT
0010	-	LT	W14-3	4	1	34	B-12-45	
0010	-	RT	W03-3	4	1	34	B-12-45	
0010	-	LT	W03-3	4	1	34	B-12-45	
0010	-	LT	G20-2A	4	1	34	B-12-45	MAX WIDTH 14 FT
0010	772+05	RT	R10-6	4	1	34	B-12-45	
0010	778+65	RT	W5-52R	4	1	34	B-12-45	
0010	778+69	RT	W01-6	4	1	34	B-12-45	
0010	779+15	LT	W5-52L	4	1	34	B-12-45	MAX WIDTH 14 FT
0010	780+14	LT	W5-52R	4	1	34	B-12-45	
0010	780+19	LT	W01-4R	4	1	34	B-12-45	
0010	781+14	RT	W5-52L	4	1	34	B-12-45	
0010	782+54	LT	R10-6	4	1	34	B-12-45	MAX WIDTH 14 FT
0010	-	RT	G20-2A	4	1	34	B-12-45	
0010	-	LT	W03-3	4	1	34	B-12-45	
0010	-	RT	W03-3	4	1	34	B-12-45	
0010	-	RT	W14-3	4	1	34	B-12-45	MAX WIDTH 14 FT
0010	-	LT	W20-4	4	1	34	B-12-45	
0010	-	LT	W12-52	4	1	34	B-12-45	
0010	-	LT	W20-1	4	1	34	B-12-45	
0010	STH 171		W12-52	3&4	1	63	B-12-45	5.3 MILES AHEAD
0010	STH 171		W057-52	3&4	1	63	B-12-45	

SUBTOTAL	0010	1,512
TOTAL	0010	5,369



REMOVING EXISTING GUARDRAIL
435+27 TO 437+38 RT
436+42 TO 437+24.5 LT
438+33 TO 439+14.5 RT
438+45 TO 438+78 LT

*CONCRETE BARRIER, SINGLE FACED, 32-INCH
*REMOVING EXISTING CONCRETE BARRIER WALL
*SAW CUT EXISTING CONCRETE BARRIER WALL
* SEE CONSTRUCTION DETAIL

LEGEND

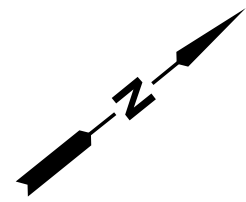
LIMITS OF CONCRETE PAVEMENT APPROACH SLAB

LIMITS OF REMOVING ASPHALTIC SURFACE MILLING 2" AND 2" ASPHALTIC SURFACE

ASPHALTIC FLUME

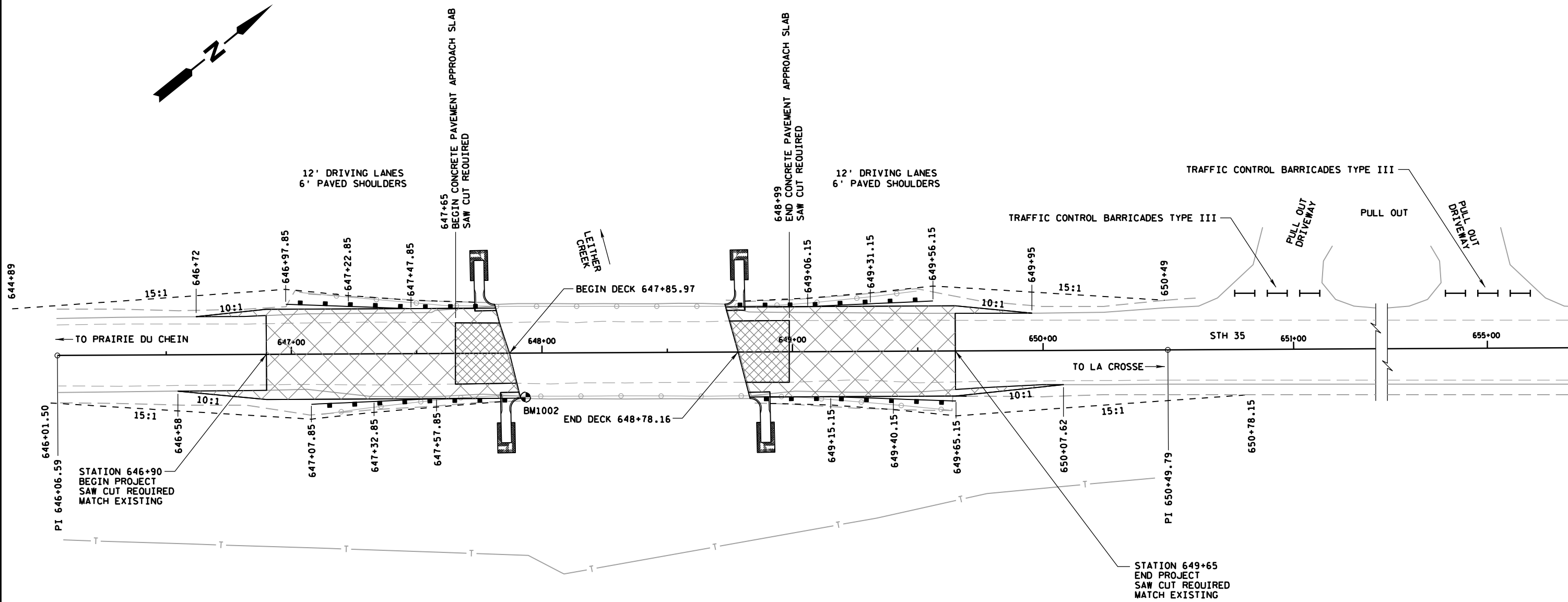
GEOTEXTILE FABRIC TYPE HR AND HEAVY RIPRAP

NO.	STA.	BM DESCRIPTION	ELEV.
1001	437+25	ALUMINUM CAP IN CONCRETE SE CORNER B-12-42	635.60



5

5



REMOVING EXISTING GUARDRAIL
647+03 - 647+81 LT
647+12 - 647+91 RT
648+73 - 649+50 LT
648+82 - 649+63 RT

LEGEND

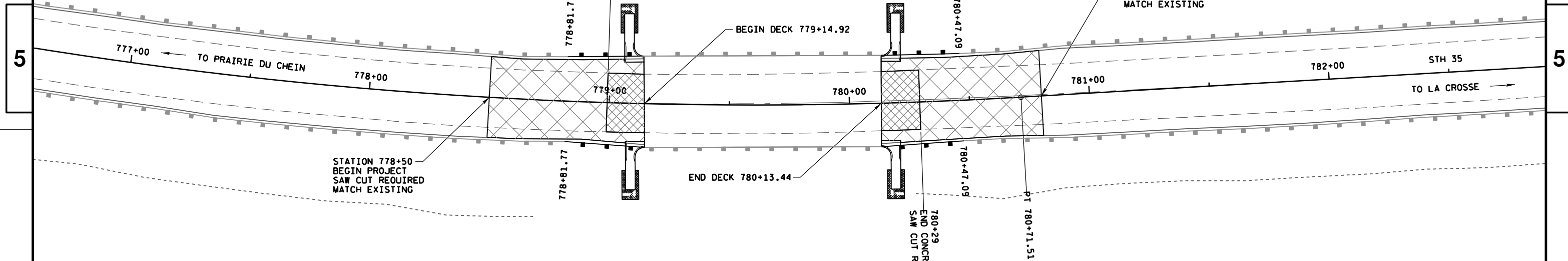
LIMITS OF CONCRETE PAVEMENT APPROACH SLAB

LIMITS OF REMOVING ASPHALTIC SURFACE MILLING 2" AND 2" ASPHALTIC SURFACE

ASPHALTIC FLUME

GEOTEXTILE FABRIC TYPE HR AND HEAVY RIPRAP

NO.	STA.	BM DESCRIPTION	ELEV.
1002	647+92	ALUMINUM CAP IN CONCRETE SE CORNER B-12-43	632.43



REMOVING EXISTING GUARDRAIL
778+81.77 - 779+14.92 LT
778+81.77 - 779+14.92 RT
780+13.94 - 780+47.09 LT
780+13.94 - 780+47.09 RT

GUARDRAIL STIFFENED LHW
778+81.77 - 778+94.21 LT
778+81.77 - 778+94.21 RT
780+34.59 - 780+47.09 LT
780+34.59 - 780+47.09 RT

NOTE: MATCH PROPOSED BEAM GUARD INTO
EXISTING BEAM GUARD AT ALL 8 LOCATIONS.

LEGEND

LIMITS OF CONCRETE PAVEMENT APPROACH SLAB

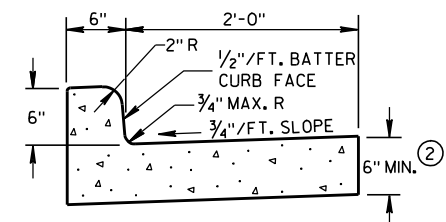
LIMITS OF REMOVING ASPHALTIC SURFACE MILLING 2" AND 2" ASPHALTIC SURFACE

ASPHALTIC FLUME

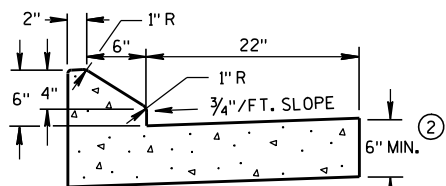
GEOTEXTILE FABRIC TYPE HR AND HEAVY RIPRAP

Standard Detail Drawing List

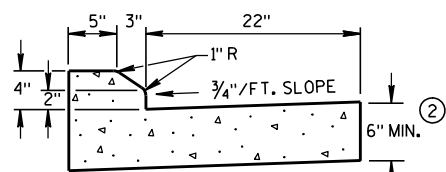
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A03-05	CONCRETE PAVEMENT SHOULDERS
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B22-05A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-05B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B33-01A	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01B	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01C	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C08-15B	PAVEMENT MARKING (INTERSECTIONS)
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-02	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



TYPES A & D ①



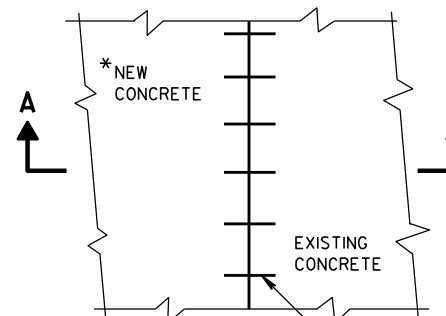
6" SLOPED CURB TYPES G & J ①



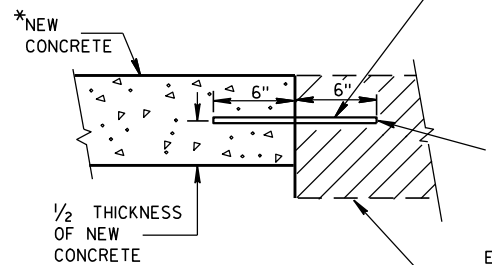
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.



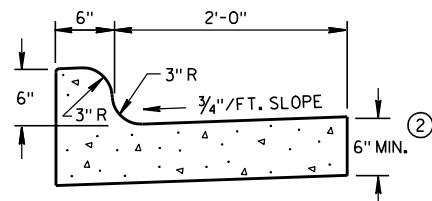
PLAN VIEW

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

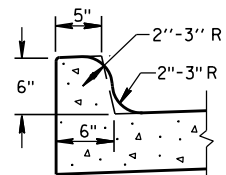
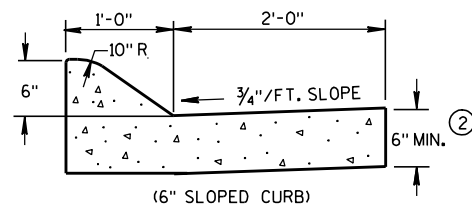
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

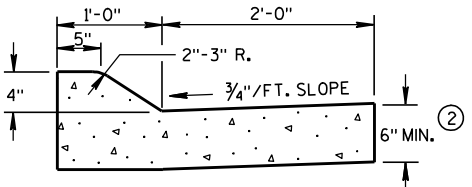
EXISTING
CONCRETE



TYPES K & L ①

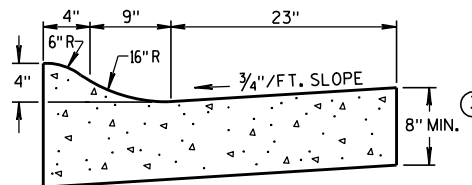
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)



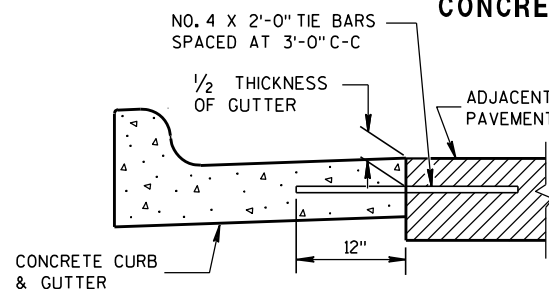
(4" SLOPED CURB)

TYPES A & D ①

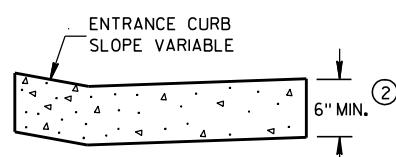


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

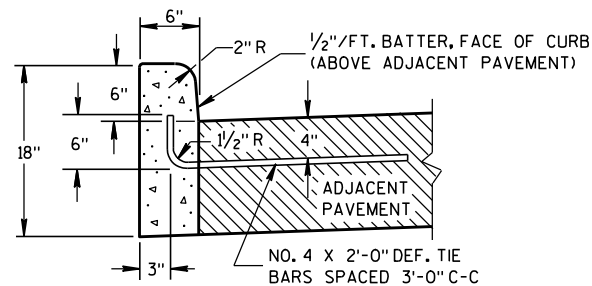


TYPICAL TIE BAR LOCATION ①



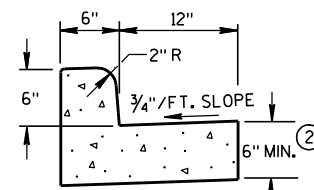
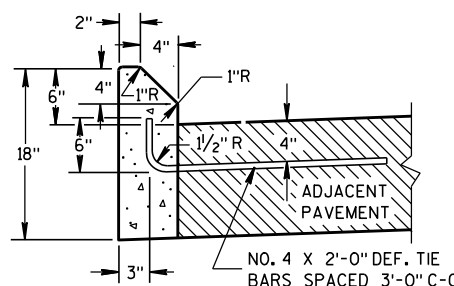
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

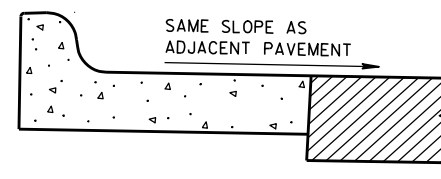
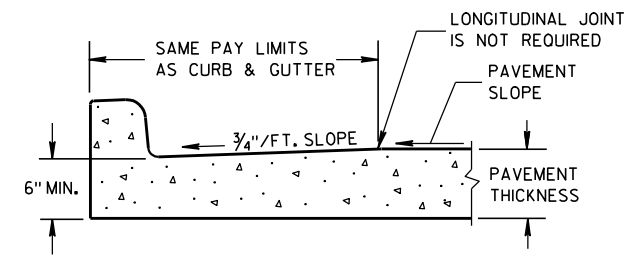
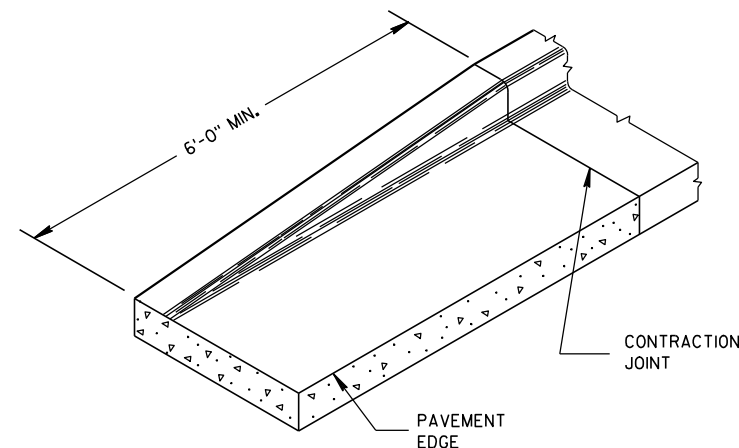
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

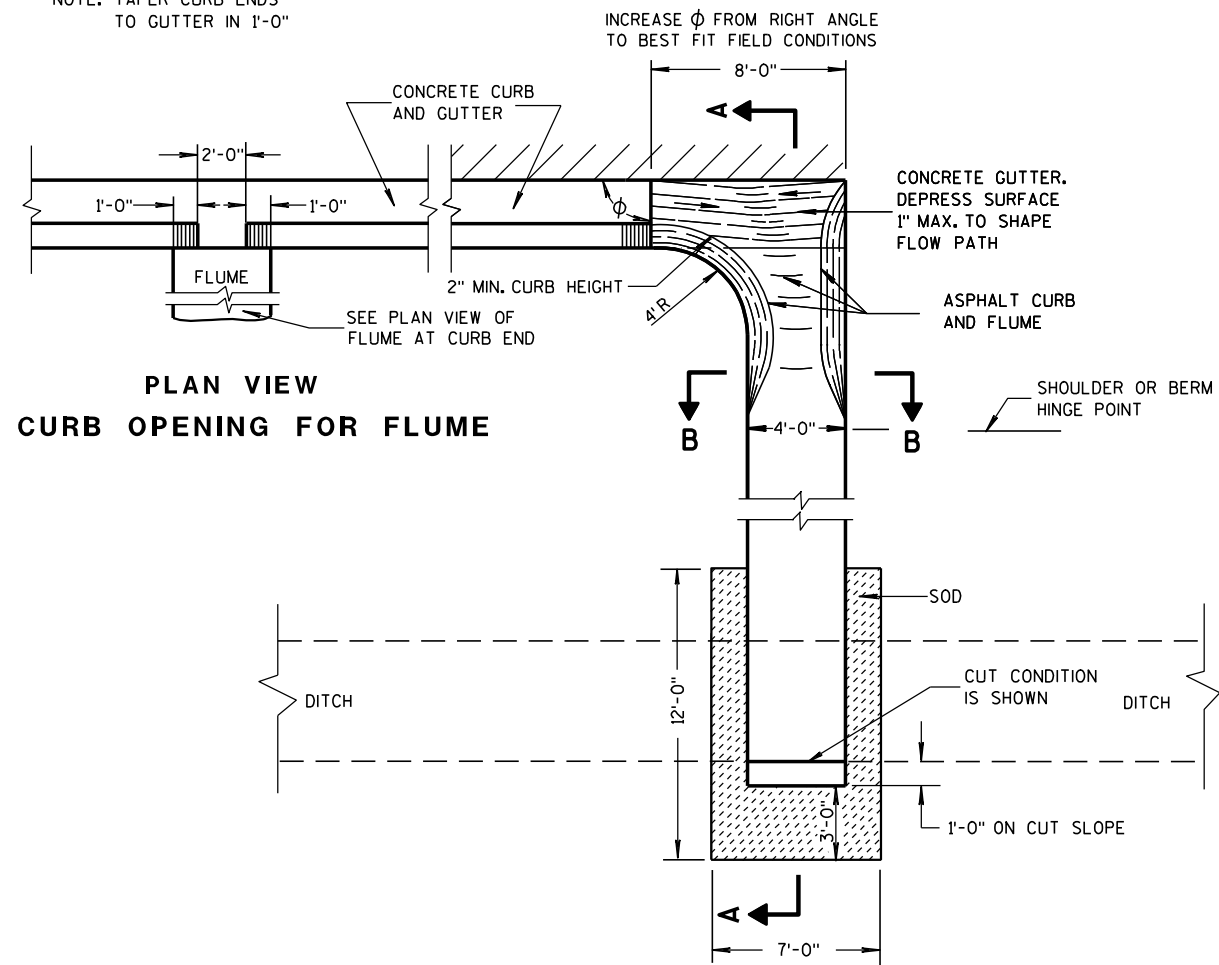
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

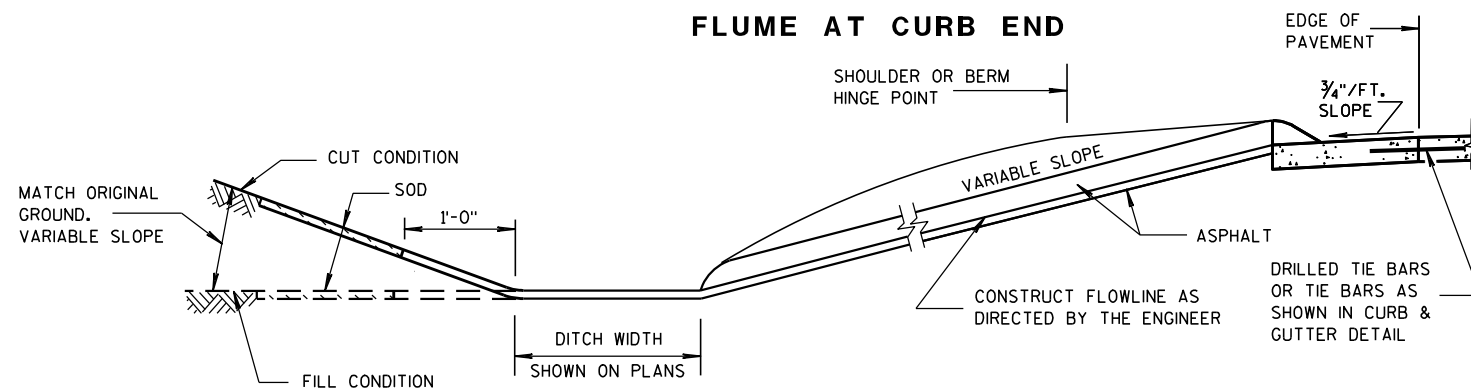
ASPHALTIC FLUME

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

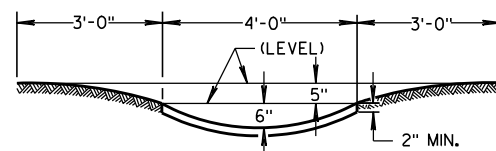


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

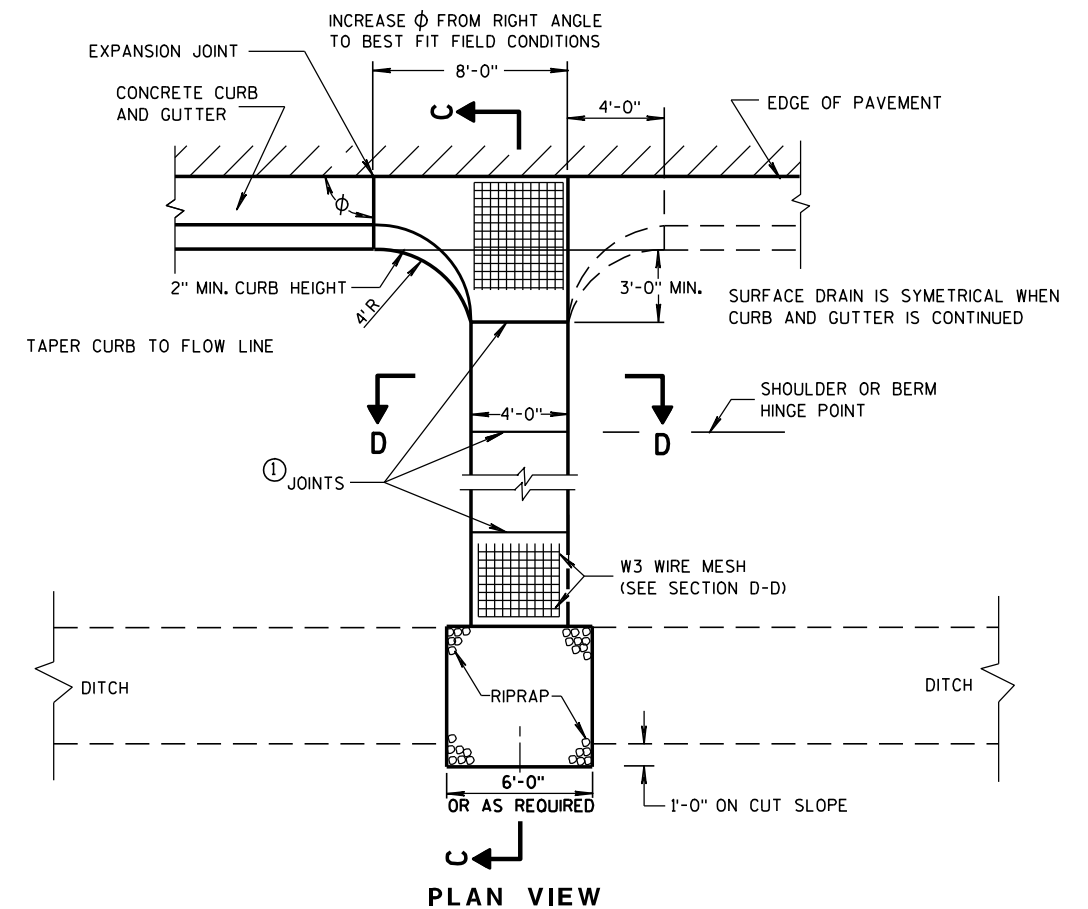
GENERAL NOTES

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

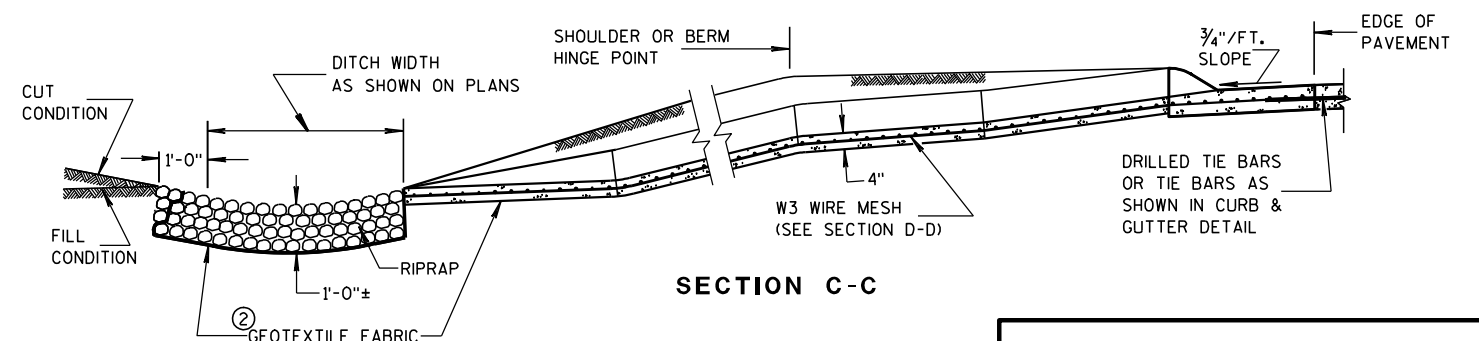
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8 TO 1/4 INCH WIDE BY 1 1/2 INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

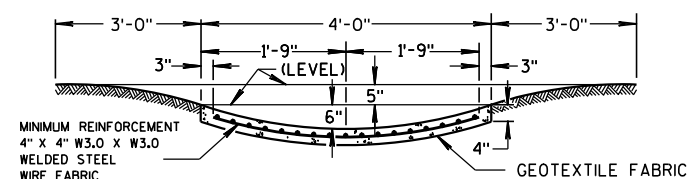
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

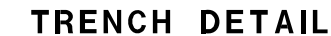
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FHWA

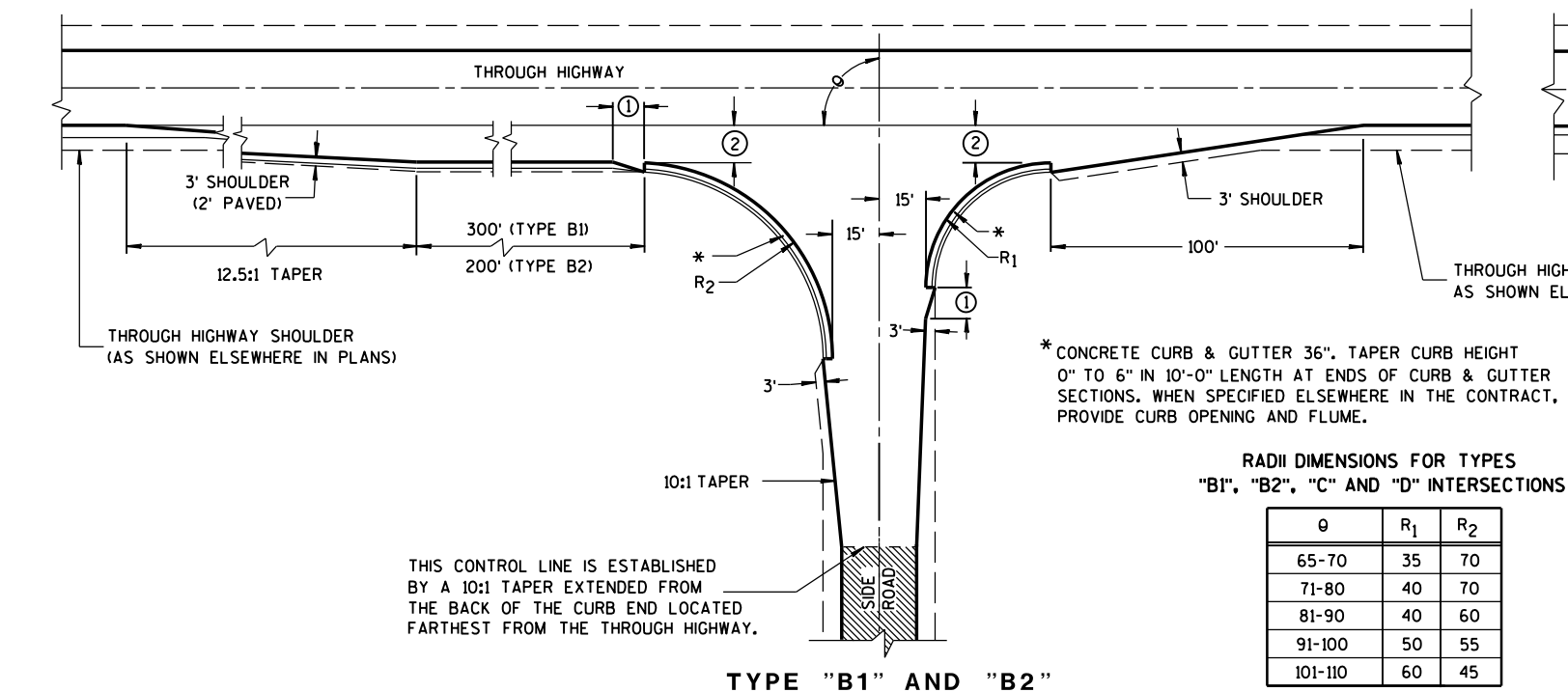
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



- 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> <u>DATE</u>	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

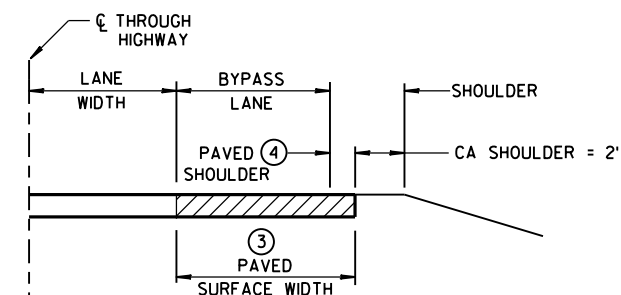
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

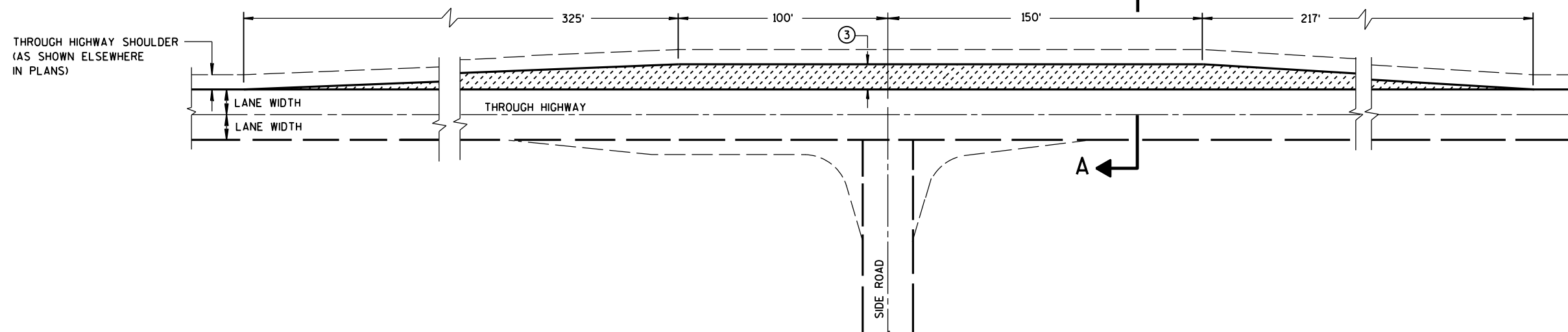
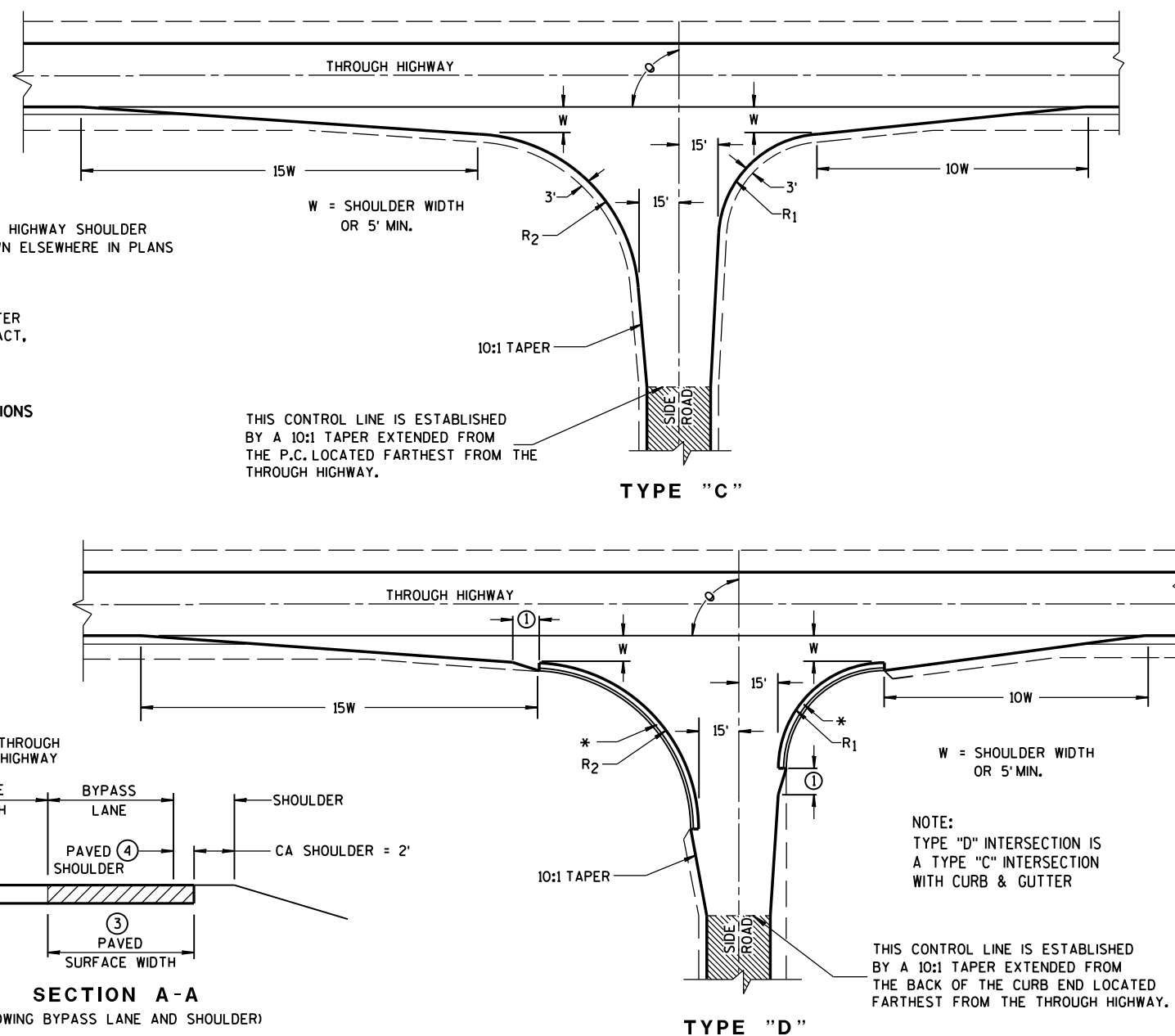
EXISTING PAVED SURFACE

BYPASS LANE

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



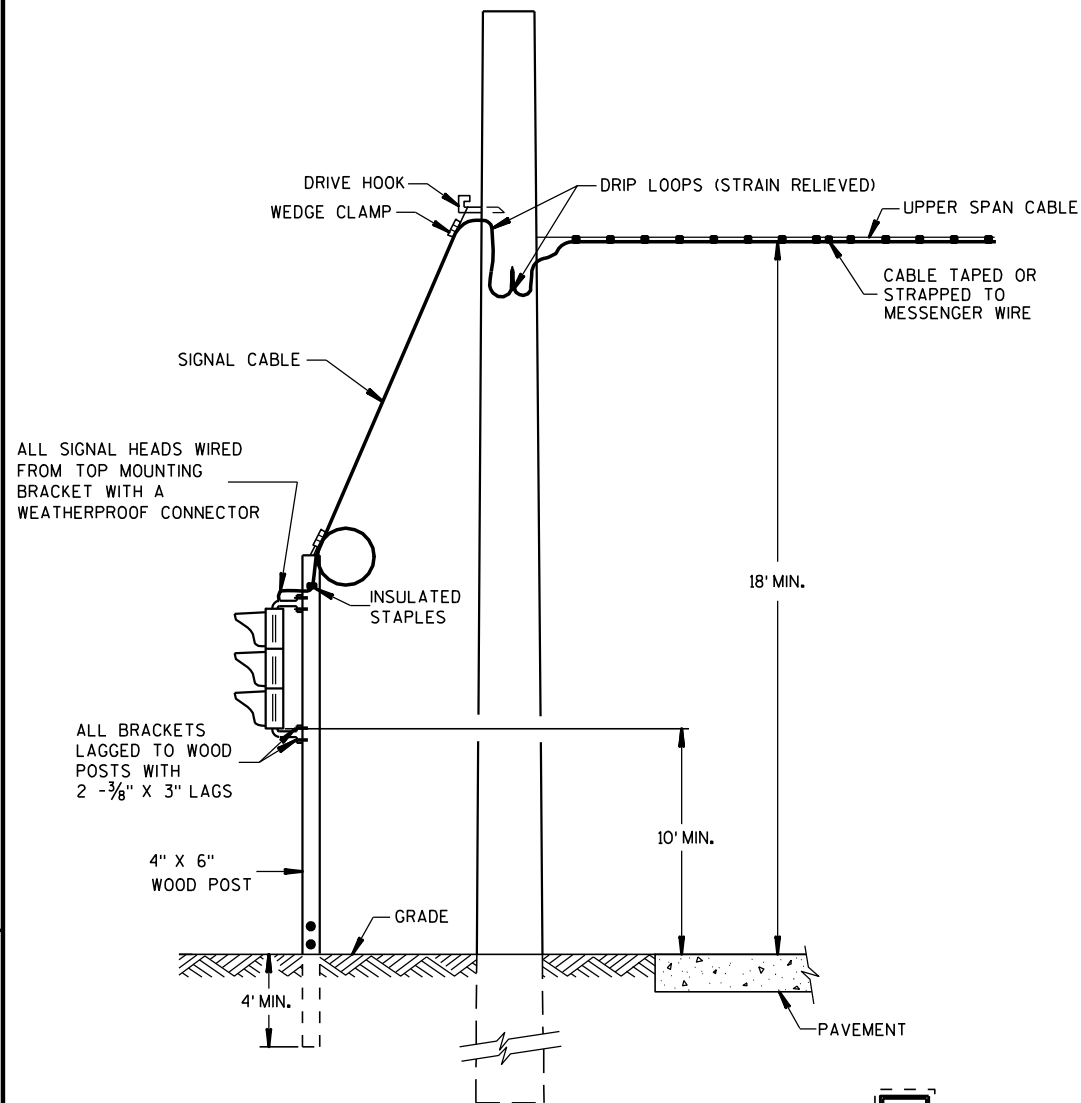
SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

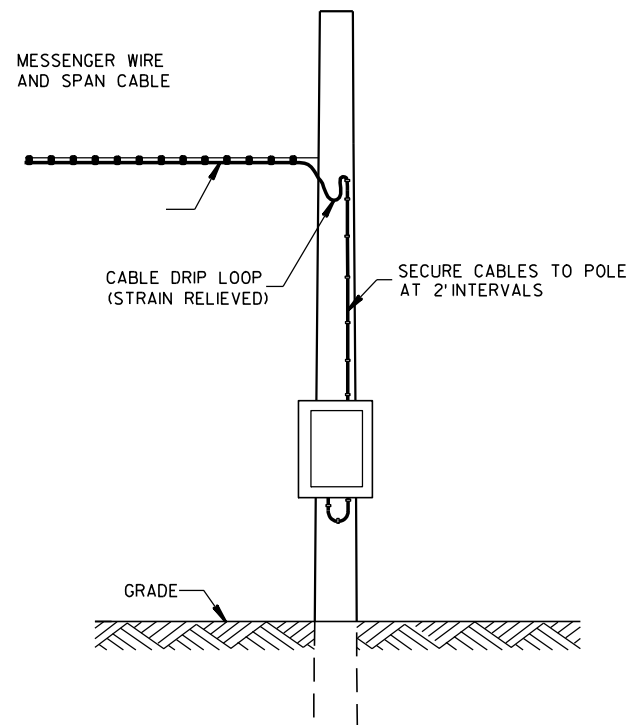


**TYPICAL DROP
TO TRAFFIC SIGNAL FACE**

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF
OUTSIDE THRU LANE.

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET



**POLE MOUNT
CABINET INSTALLATION**

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

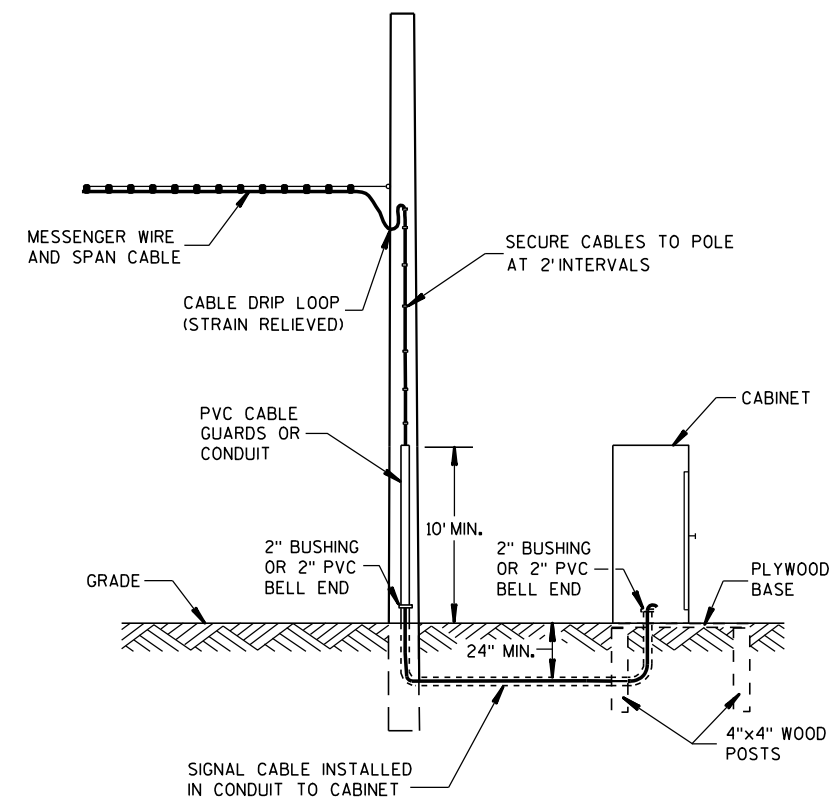
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

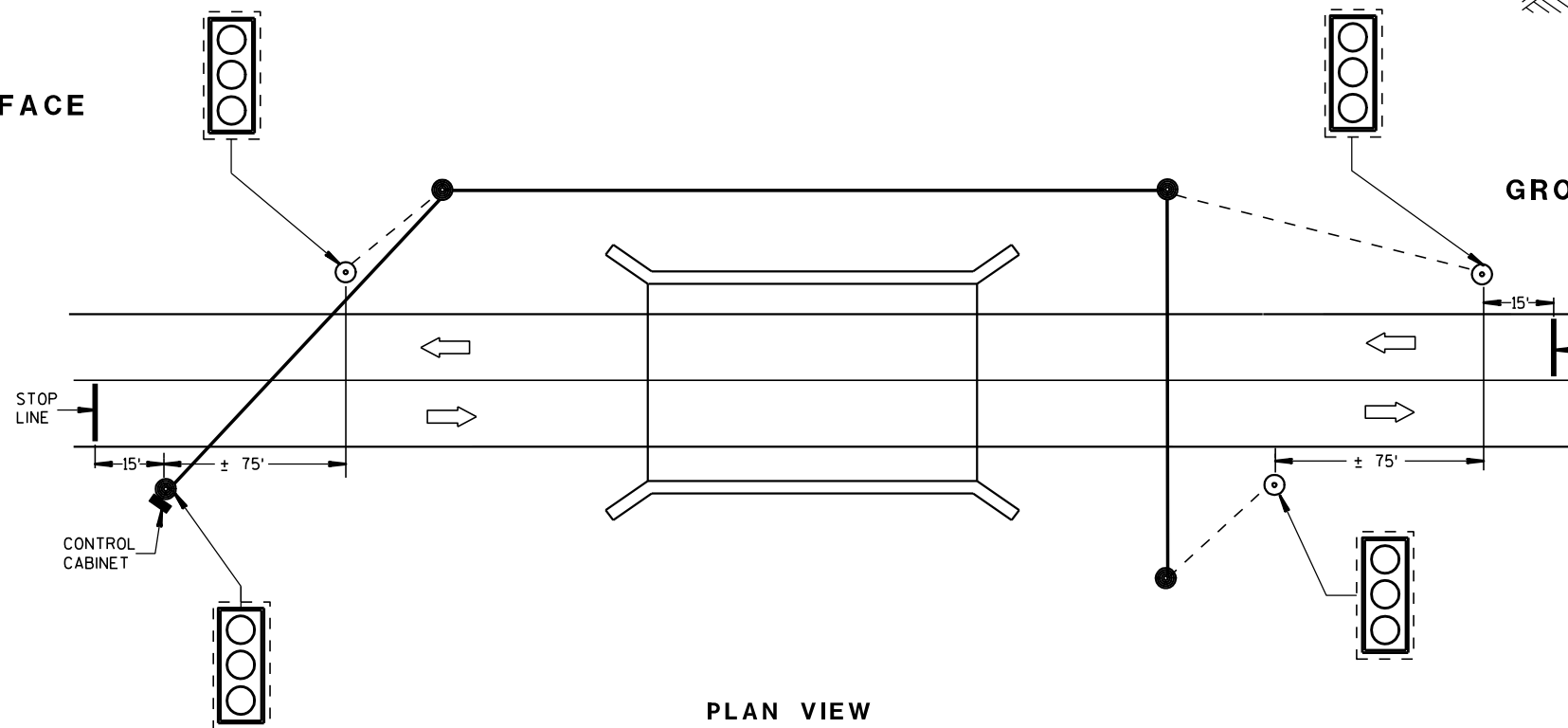
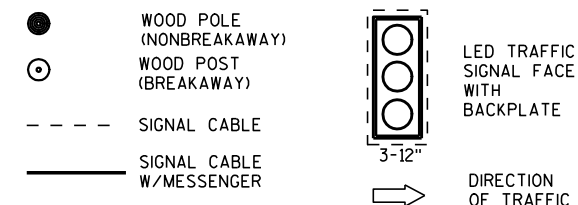
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

LEGEND



**PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION**

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

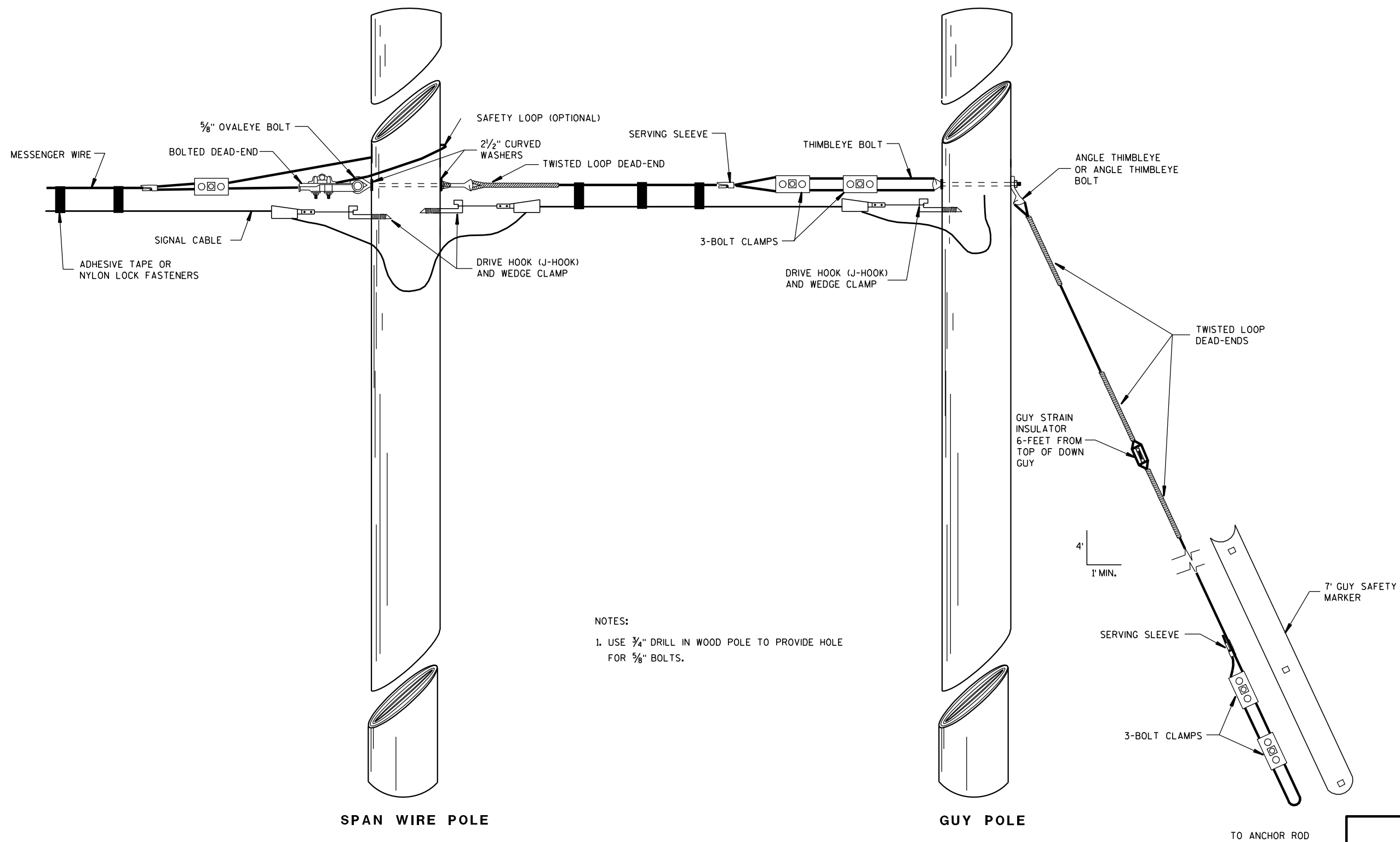
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

FHWA



NOTES:
1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

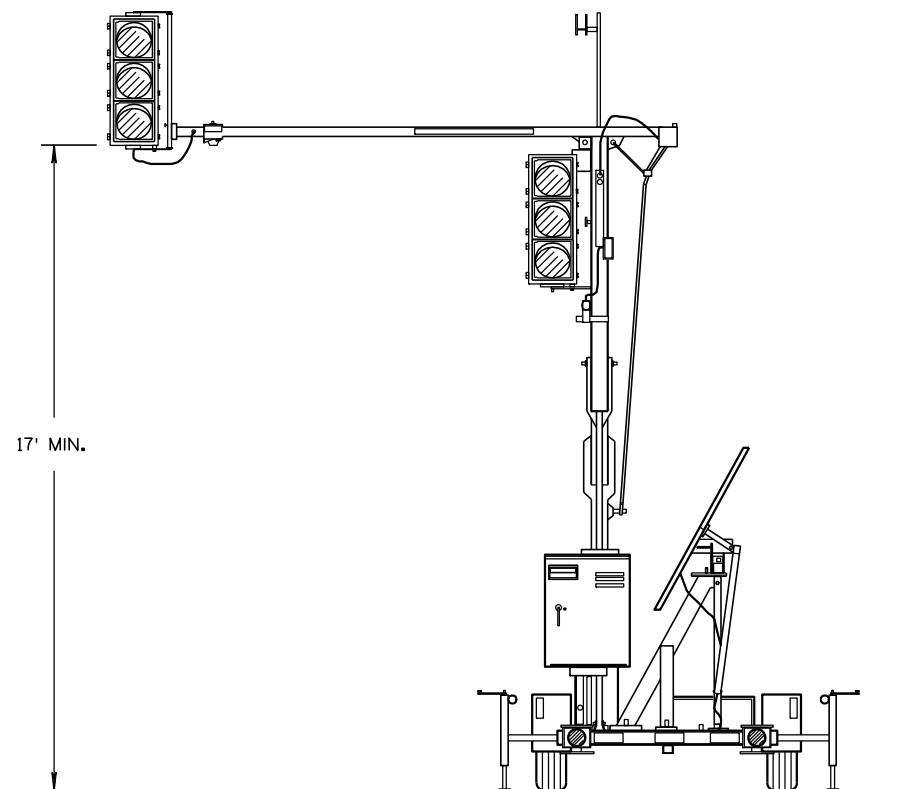
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS

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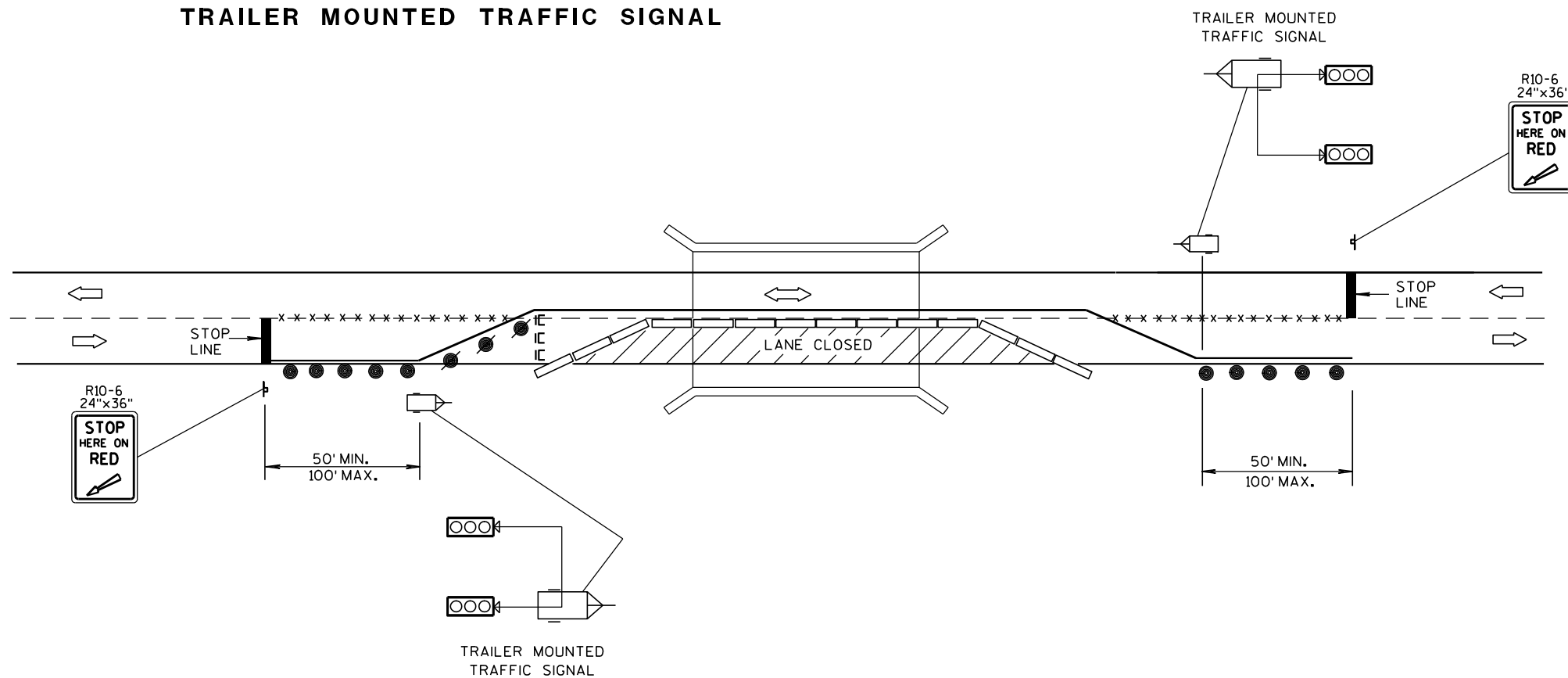


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- ⌋ POST MOUNTED SIGN
- *-x-* REMOVING PAVEMENT MARKING
- IC TYPE III BARRICADE WITH SIGN
- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ▬ TEMPORARY PRECAST CONCRETE BARRIER
- ⌋ TRAILER MOUNTED TRAFFIC SIGNAL
- ➡ DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

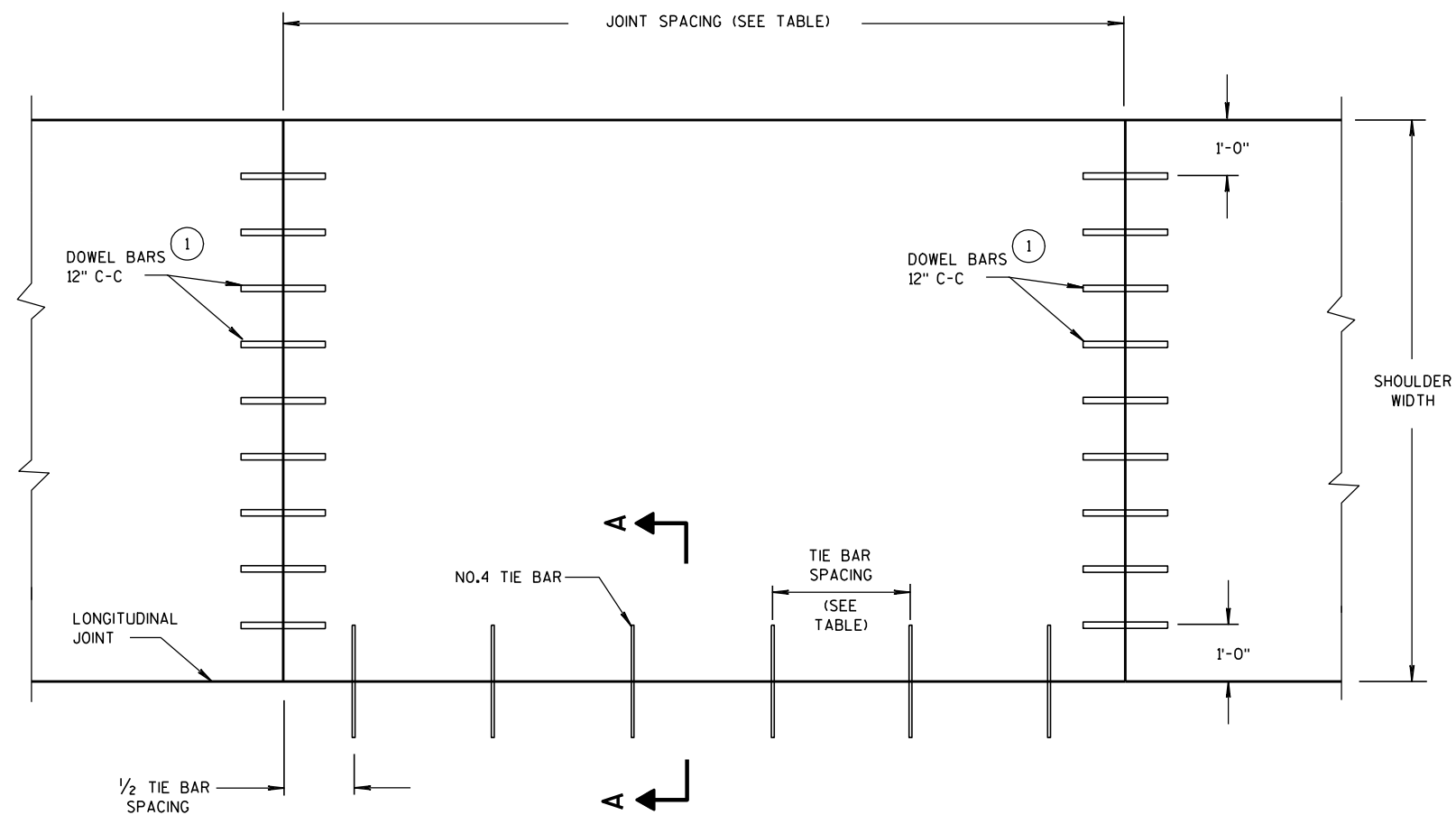
APPROVED

3/2/2011

DATE

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STATE ELECTRICAL ENGINEER FOR HWYS



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

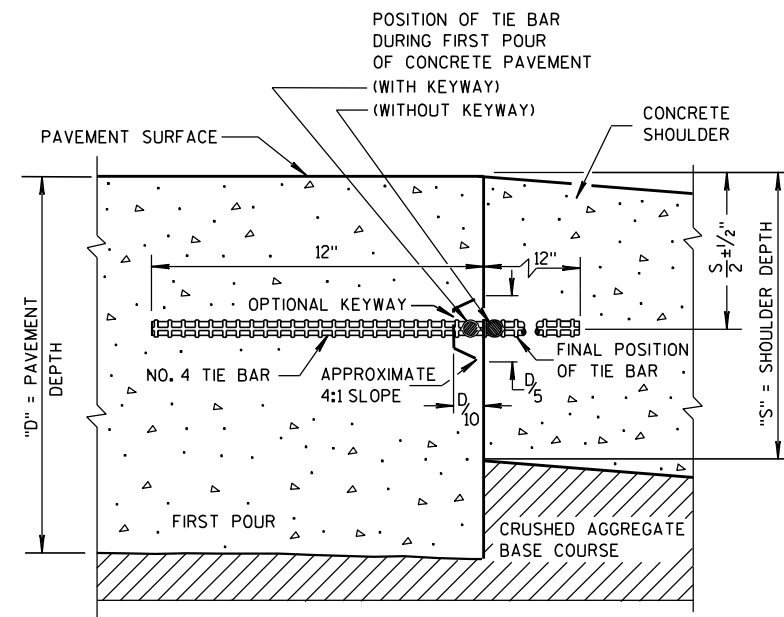
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT

1
PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDER
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDER

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

FOR DOWELED CONCRETE SHOULDER WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

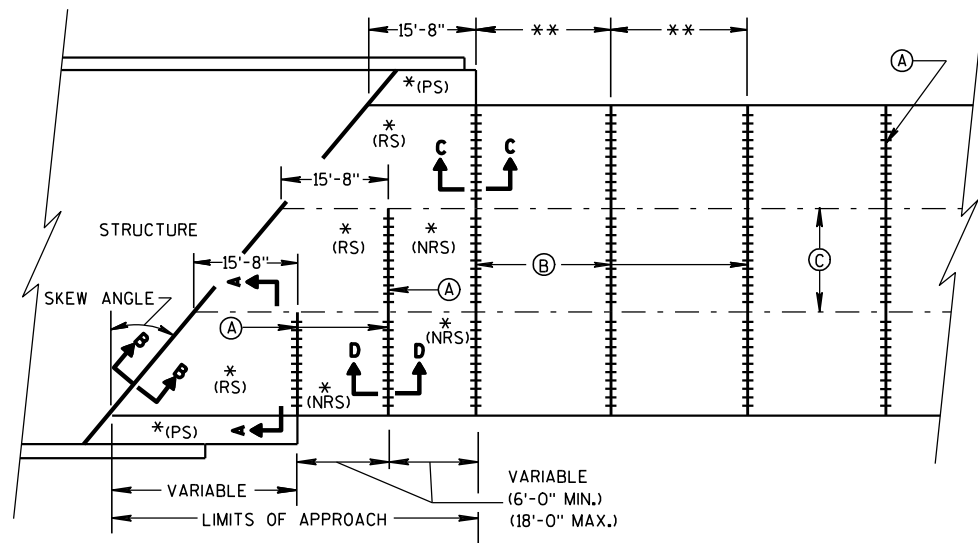
CONCRETE PAVEMENT SHOULDER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

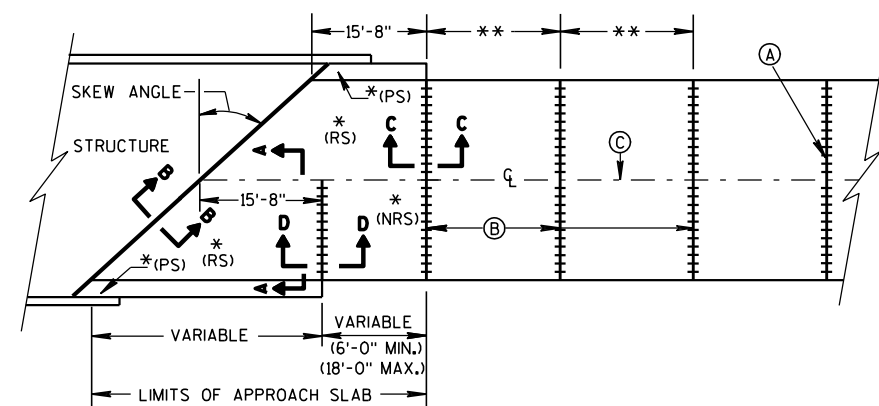
APPROVED
8/15/2011
DATE

FWHA

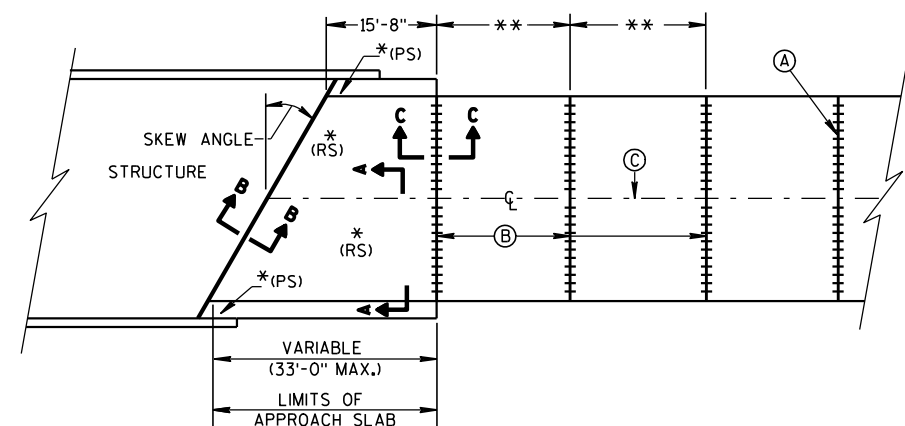
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**

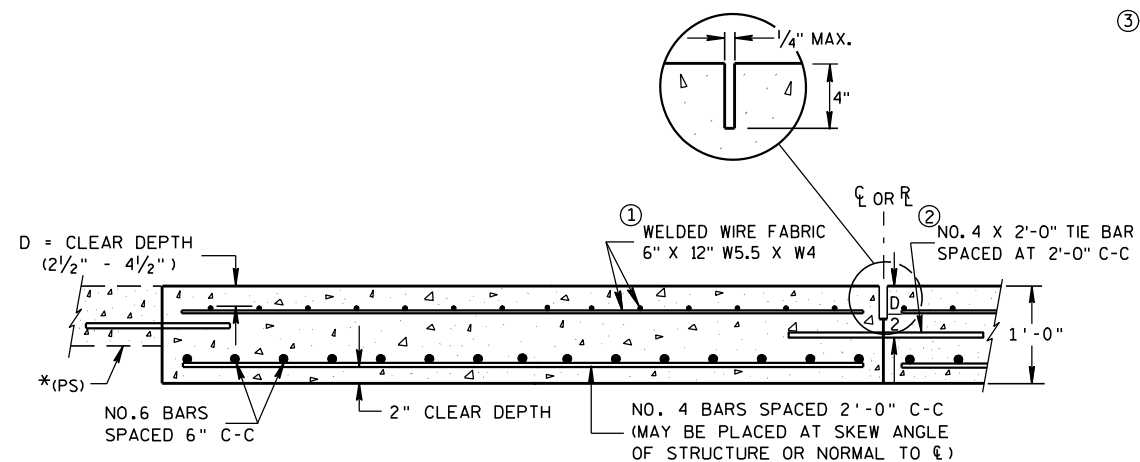


**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**

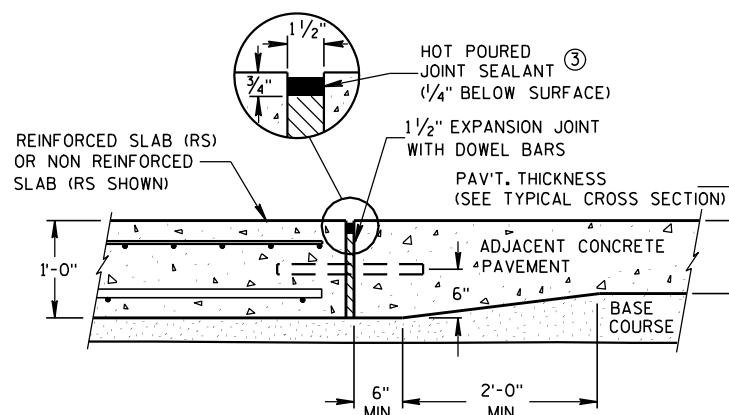


**SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

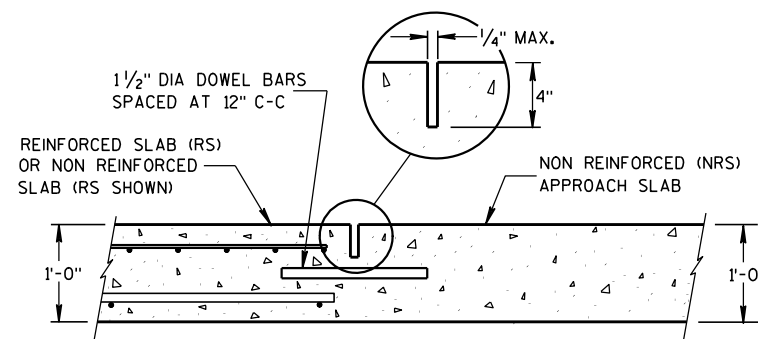
- * (RS) = REINFORCED CONCRETE SLAB
 * (PS) = PAVED CONCRETE SHOULDER, CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 * (NRS) = NON-REINFORCED CONCRETE SLAB
 ** STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C
 (C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



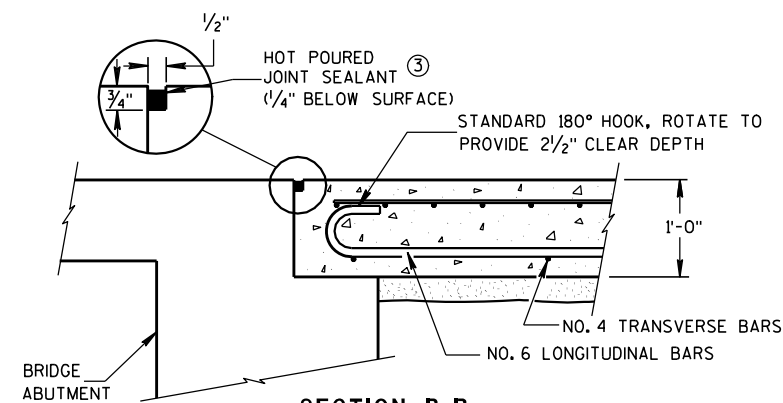
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

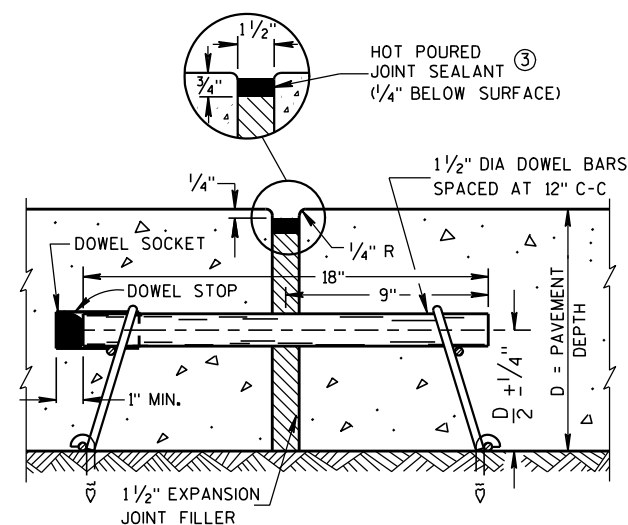
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

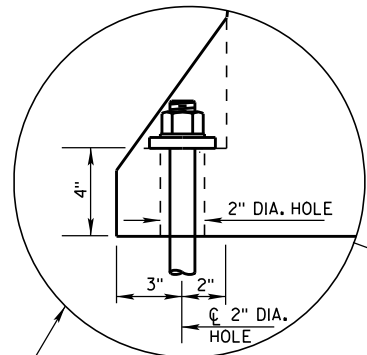
APPROVED

12/11/2009

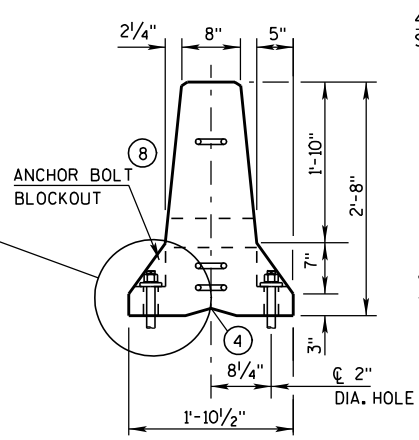
DATE

FHWA

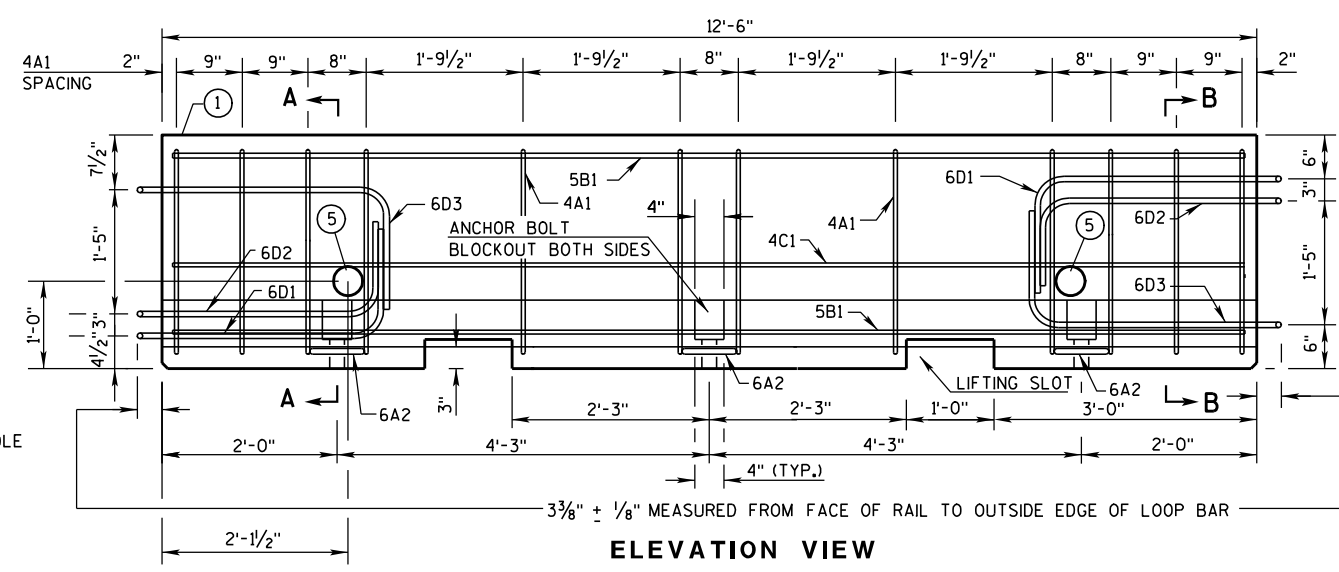
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



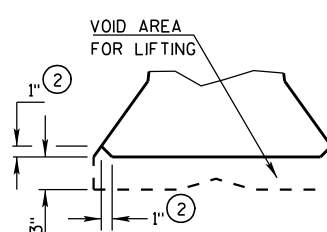
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



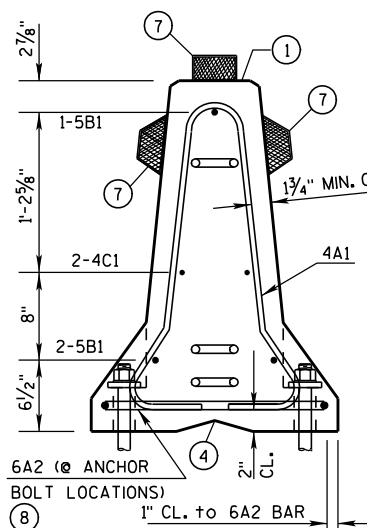
END VIEW



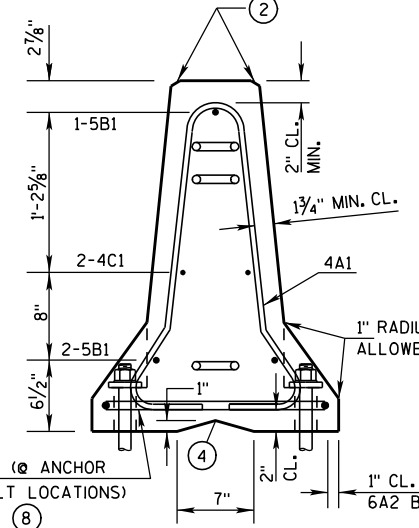
ELEVATION VIEW



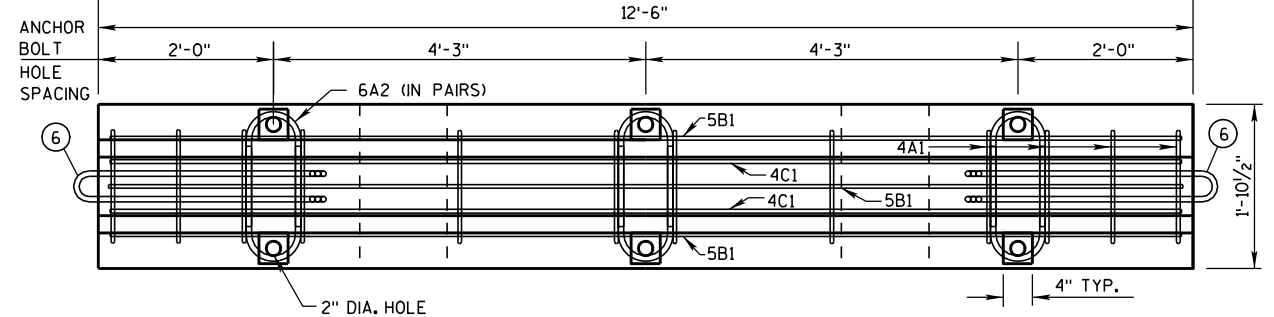
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

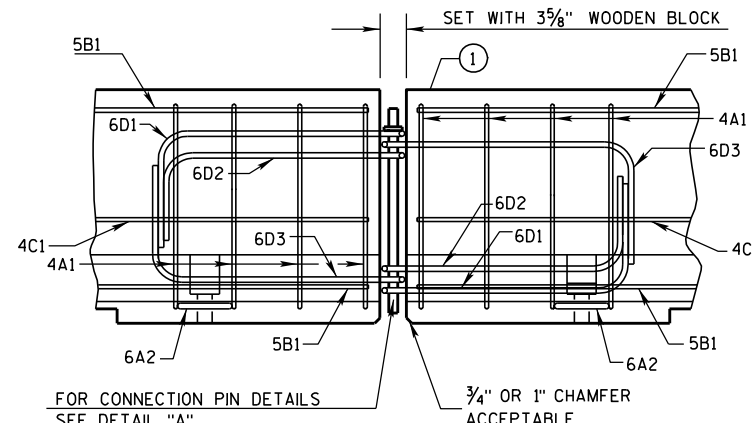


SECTION B-B
(STIRRUP PLACEMENT)

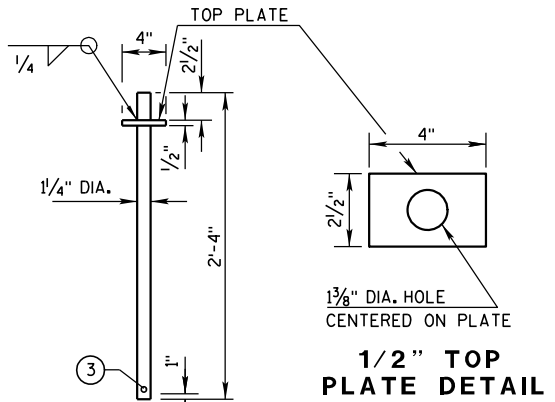


PLAN VIEW

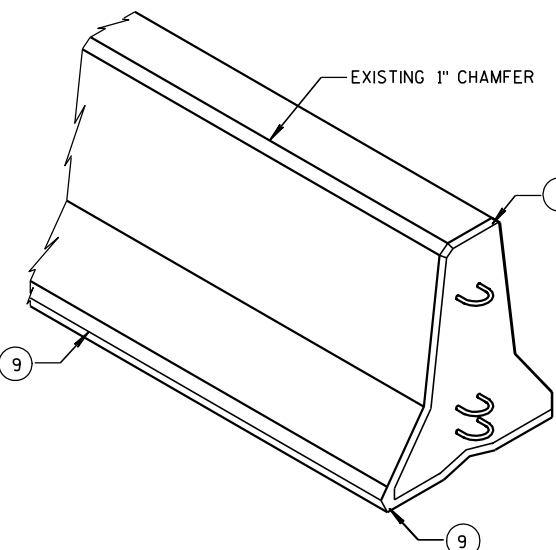
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

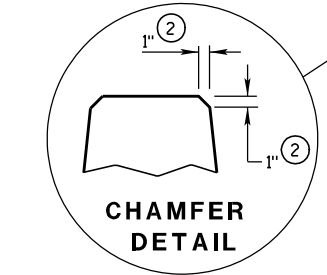
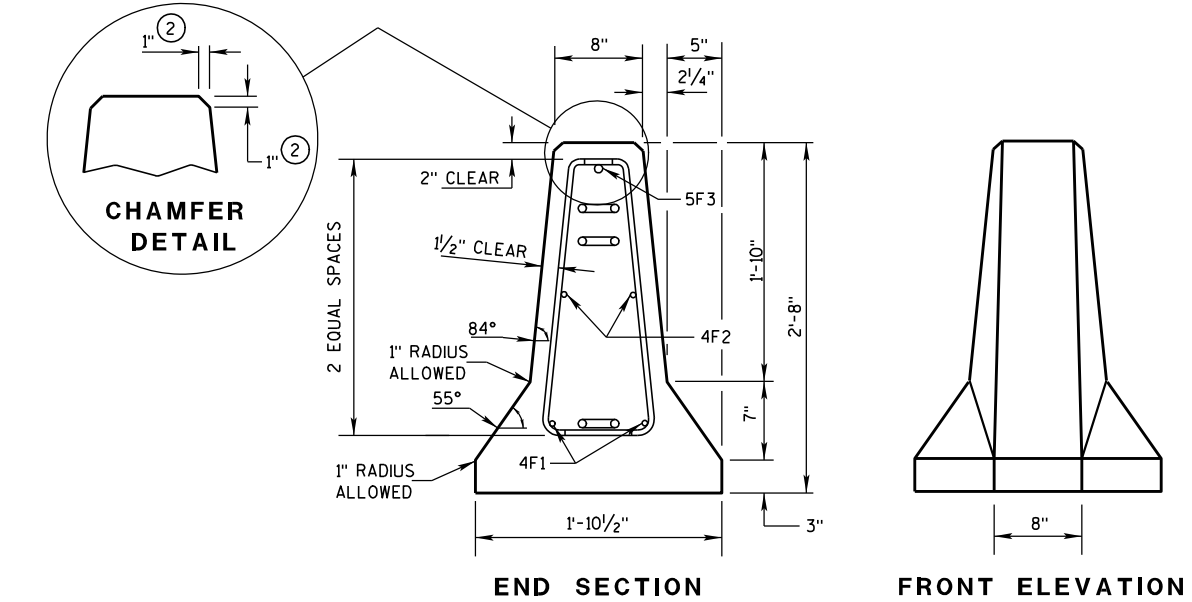
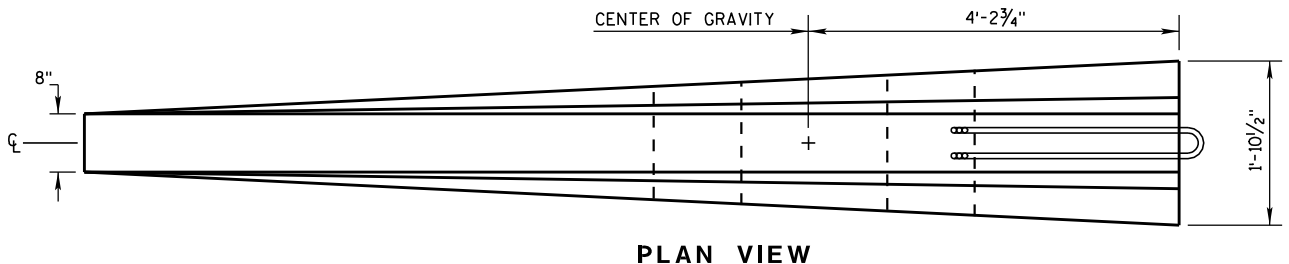
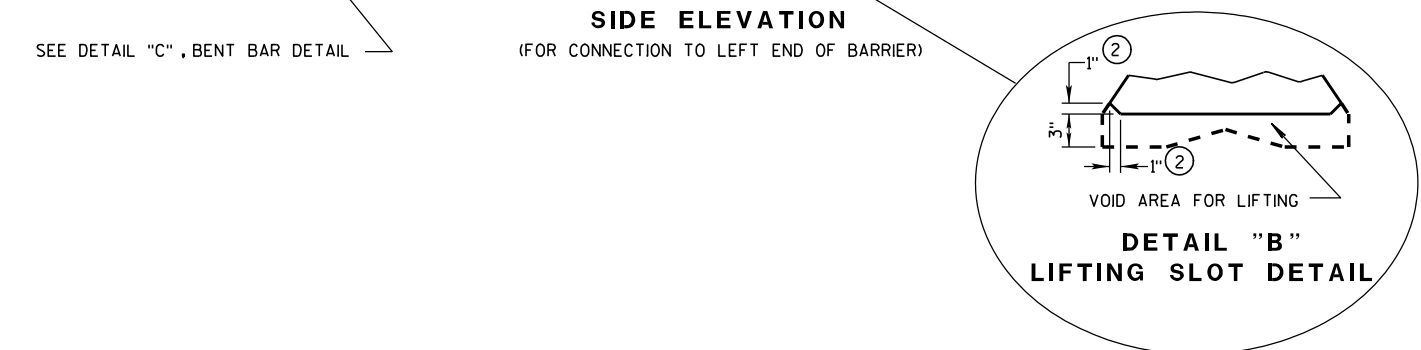
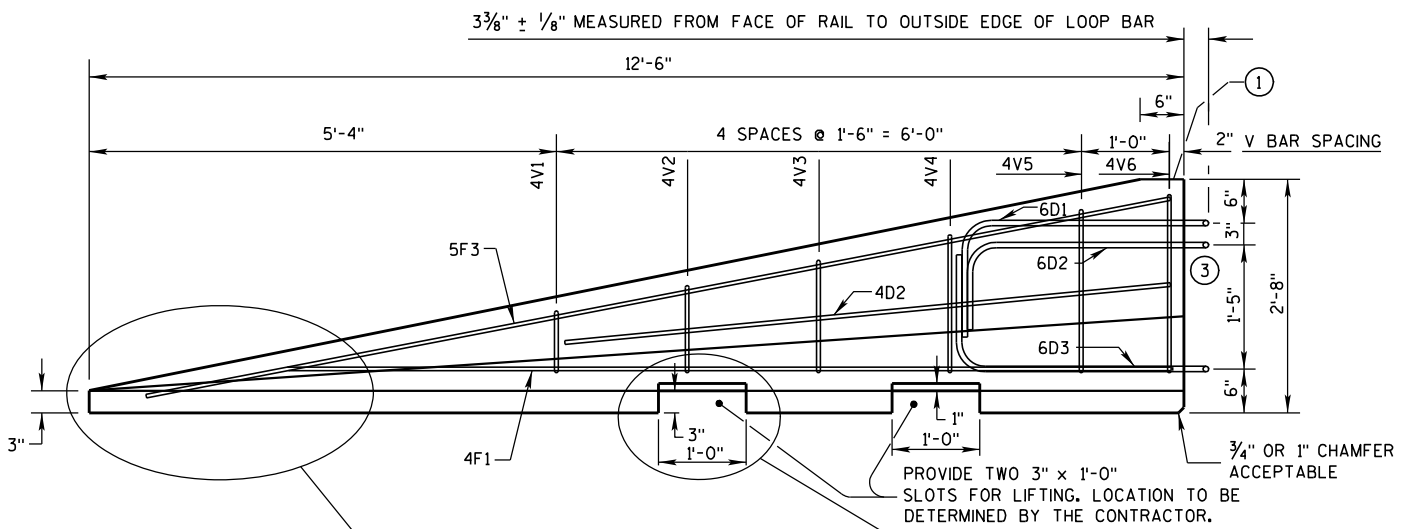


GENERAL NOTES

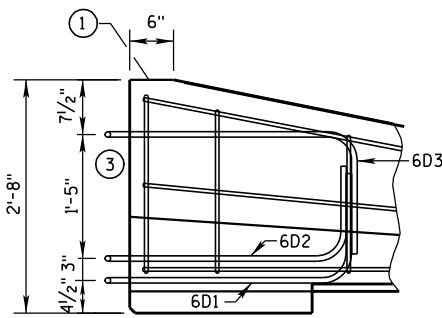
- THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).
- DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.
- USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.
- LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.
- CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.
- PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.
- INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.
- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
 - 1" CHAMFER TO PREVENT SPALLING.
 - A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
 - "V" NOTCH IS OPTIONAL.
 - THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
 - NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
 - USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
 - SEE SHEET D FOR ANCHORING CRITERIA.
 - 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



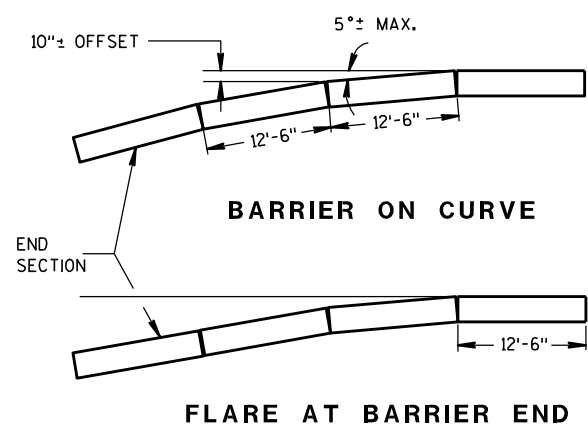
DETAILS OF BARRIER TAPER SECTION



SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

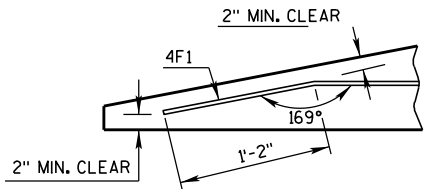
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

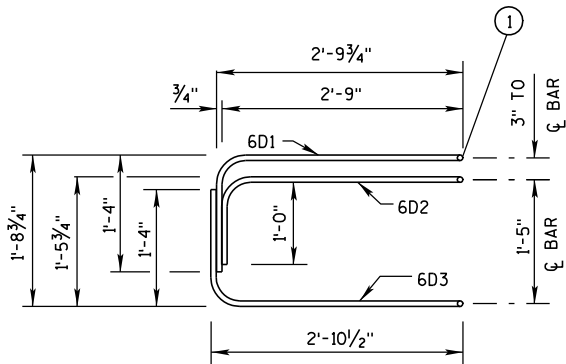
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

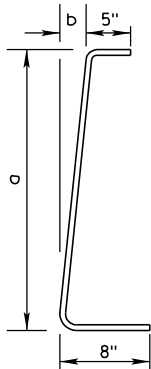
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS

2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

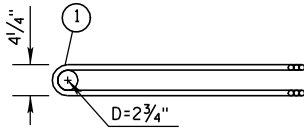
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

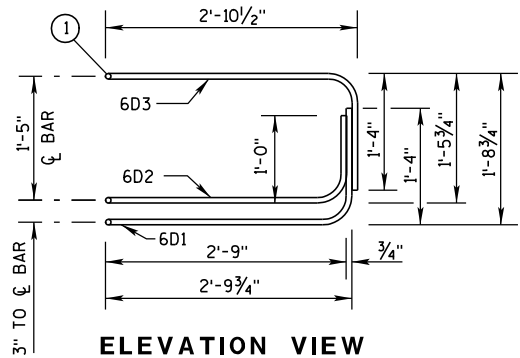
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

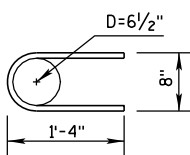


PLAN VIEW
LOOP BAR ASSEMBLY

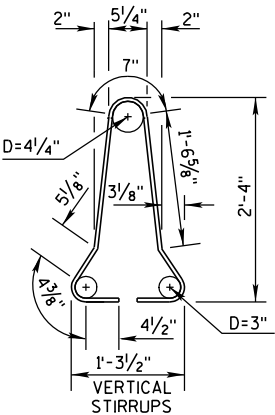
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

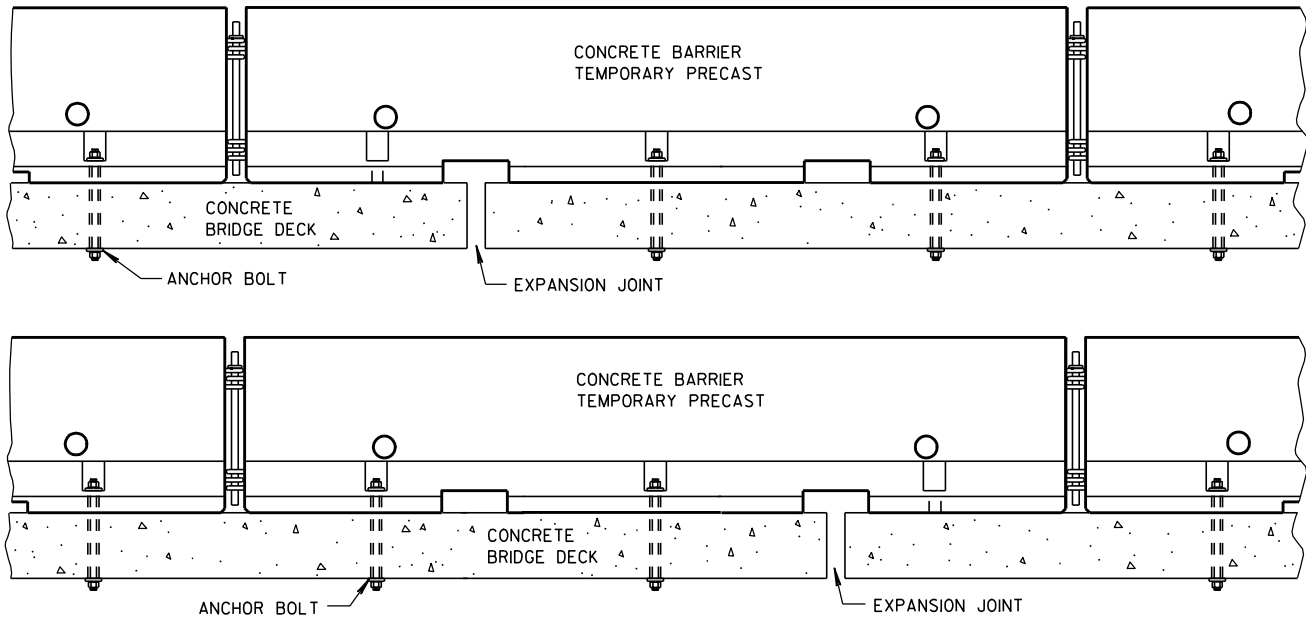


4A1

BARRIER SECTION

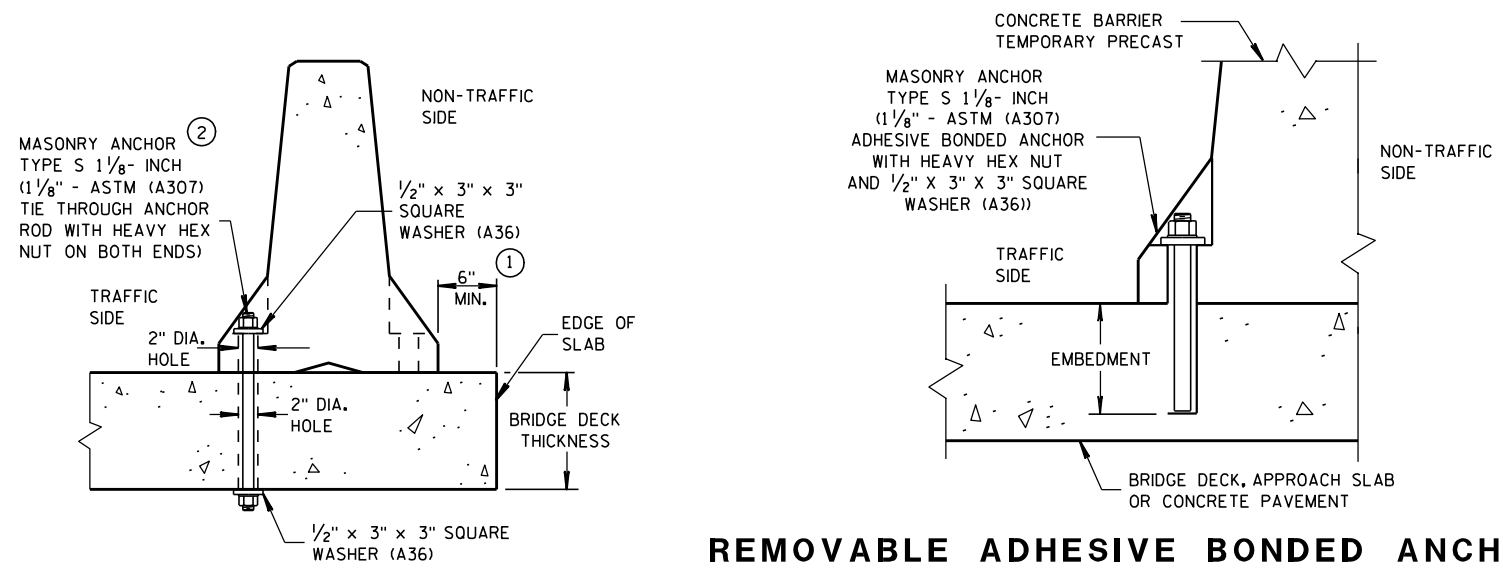
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

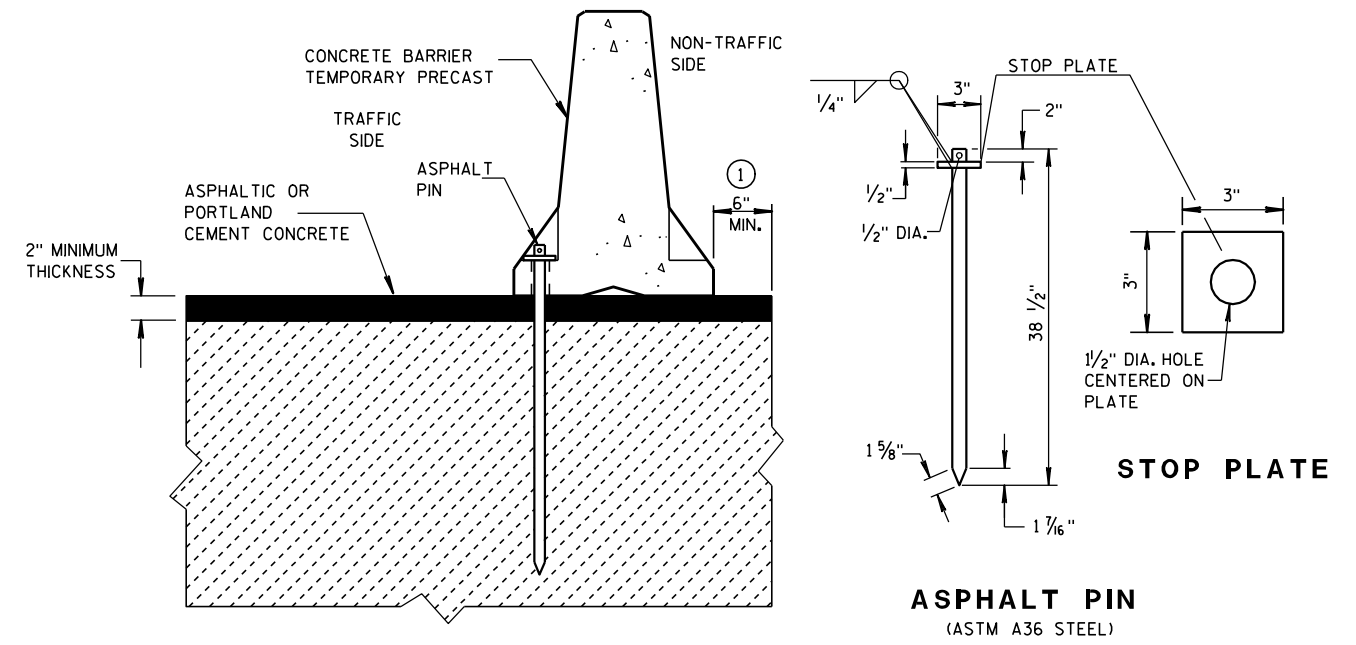


THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

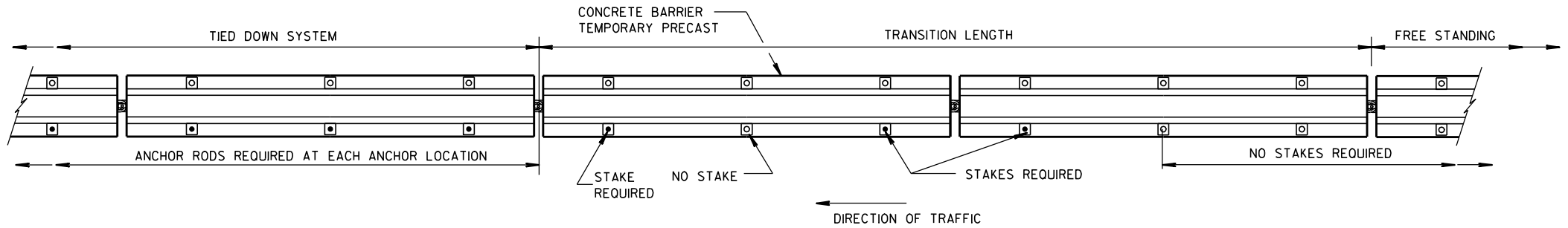
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- 1 CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

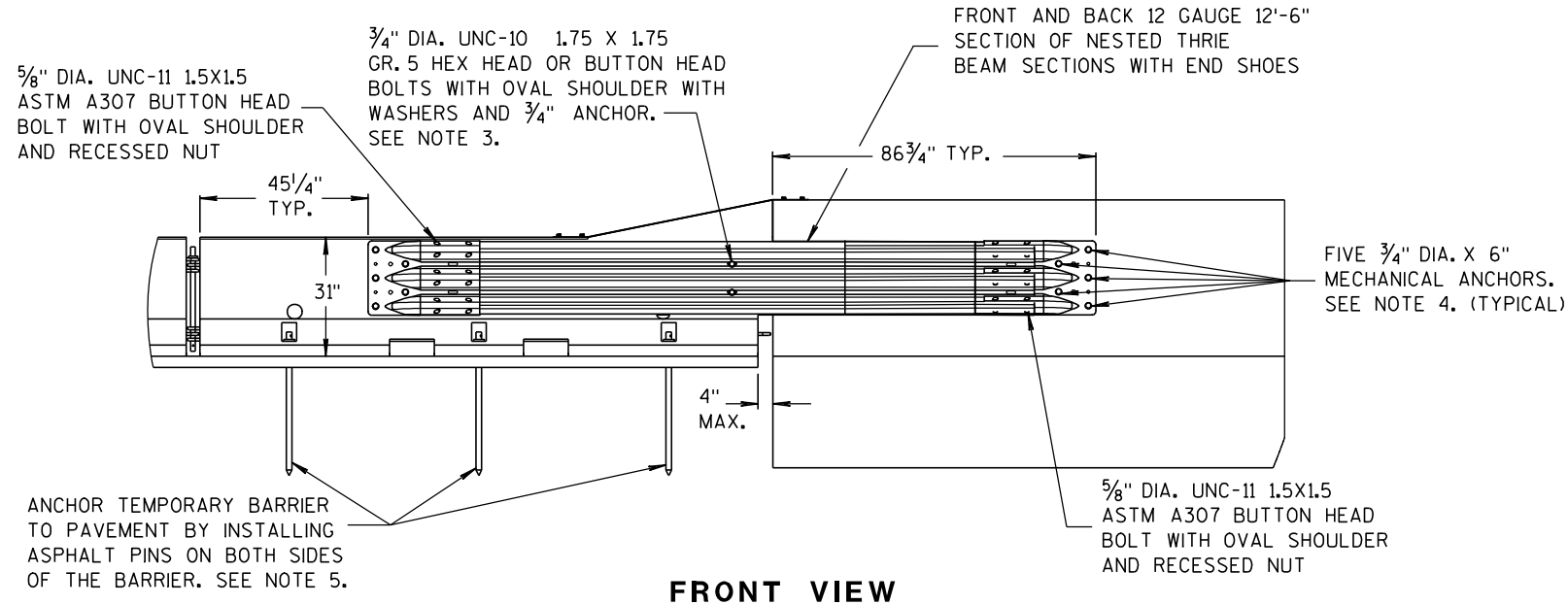
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- 2 ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

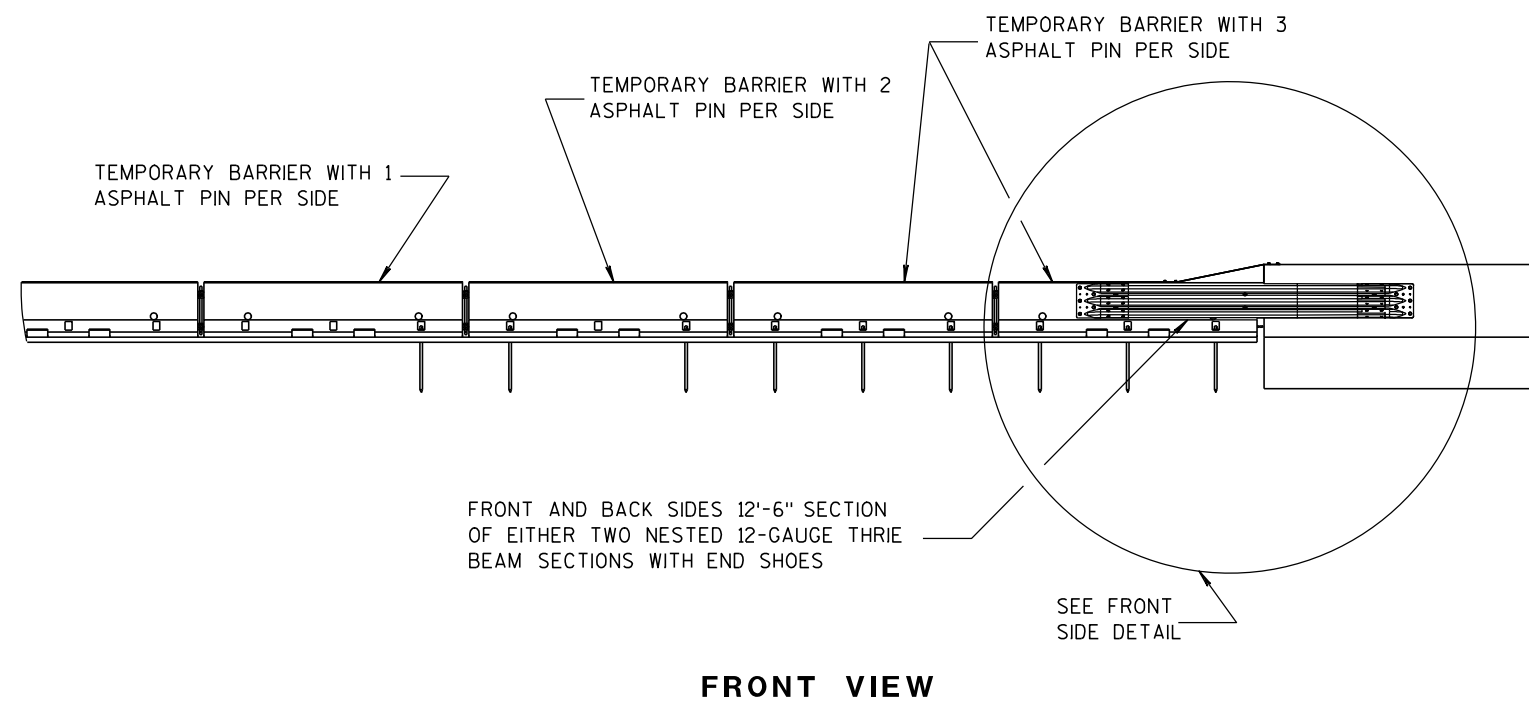
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

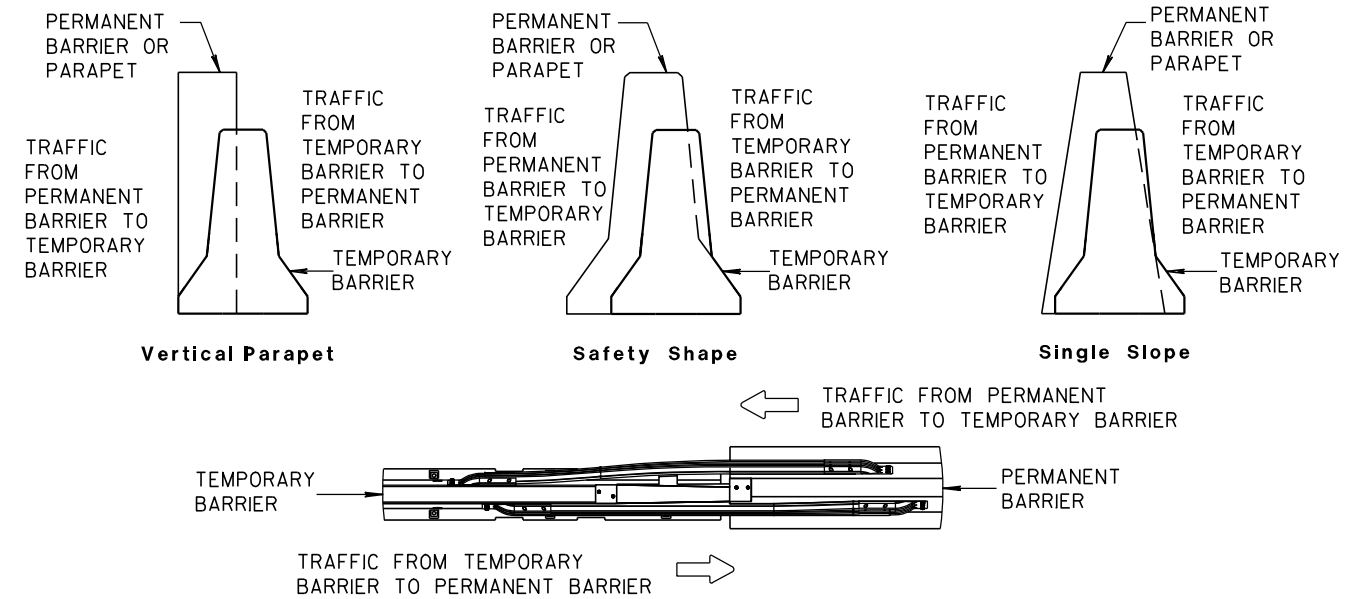


NOTES

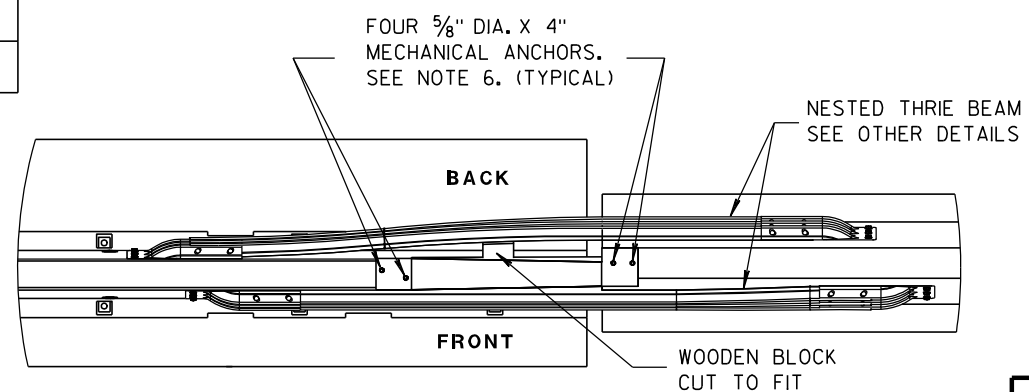
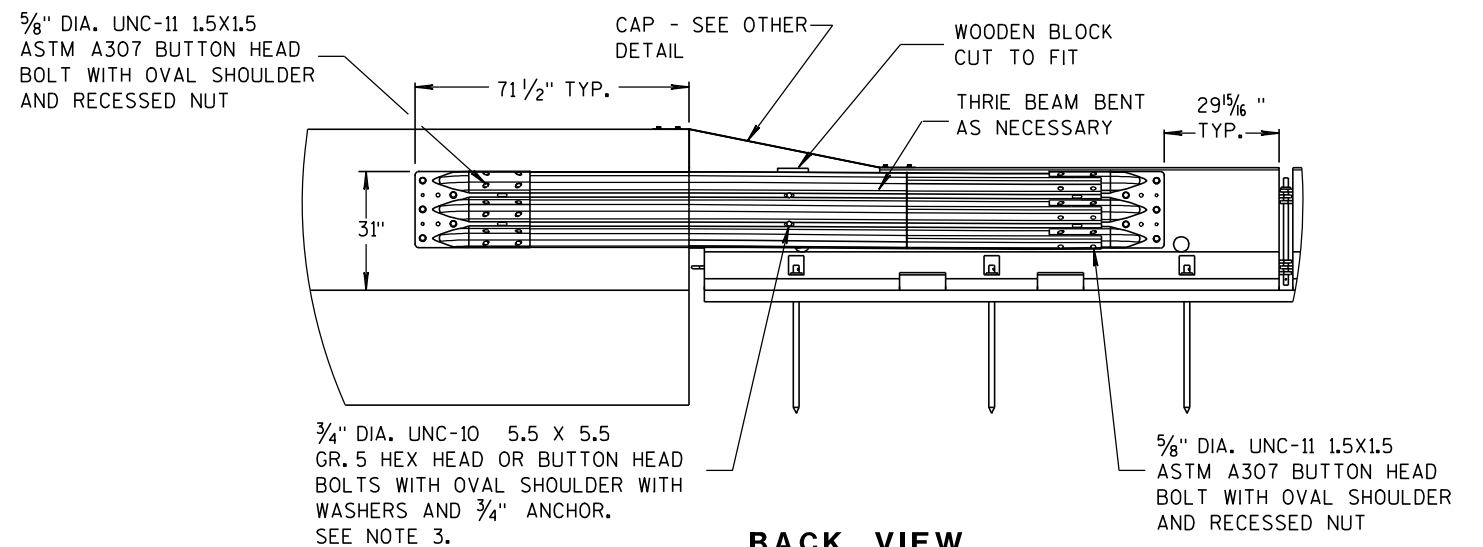
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

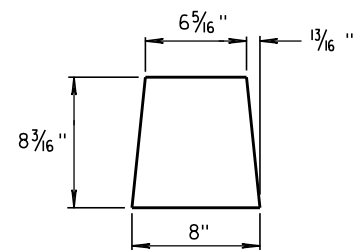
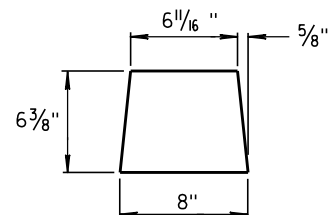
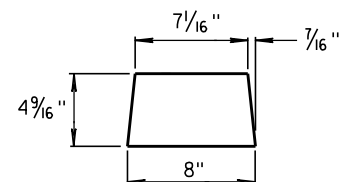
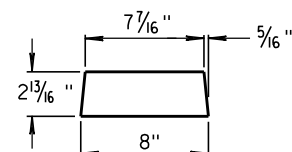
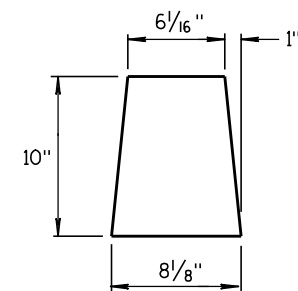
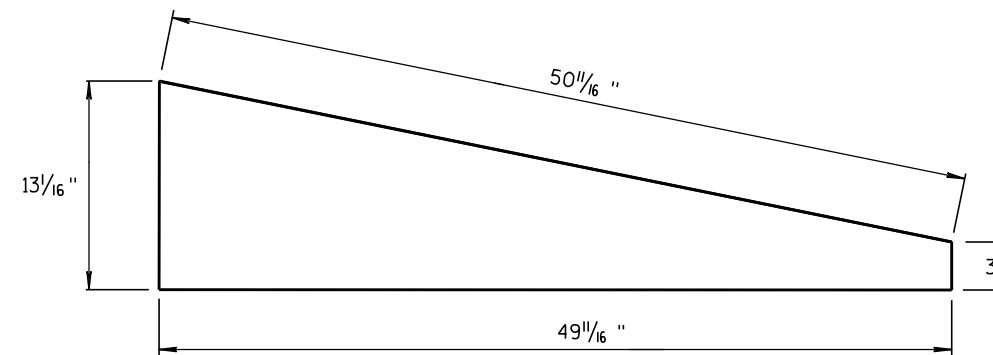
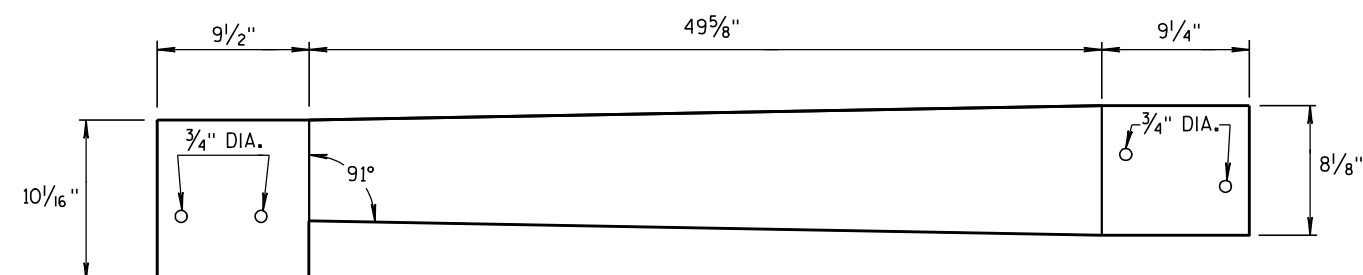
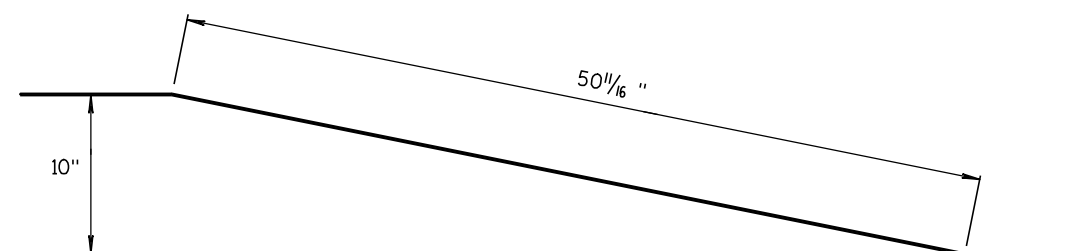


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



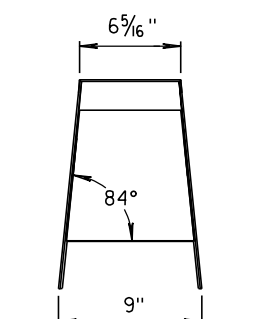
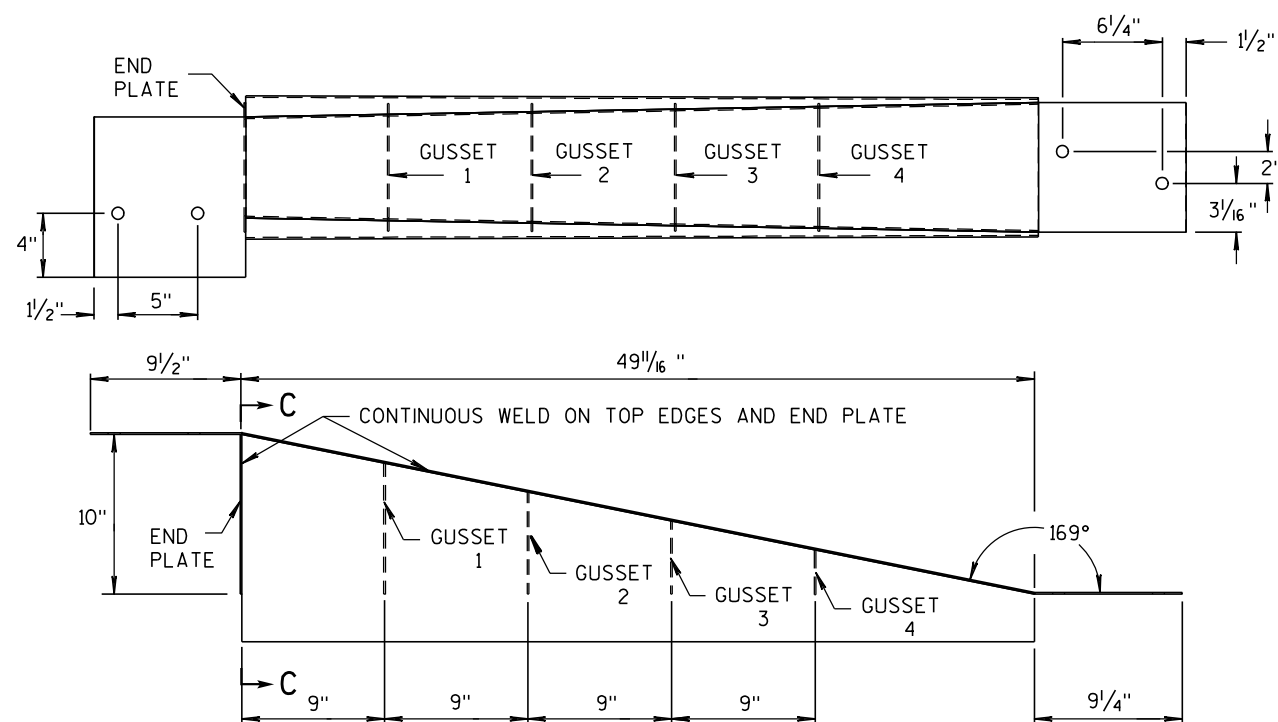
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

**GUSSET 1****GUSSET 2****GUSSET 3****GUSSET 4****GUSSETS****END PLATE****SIDE PLATE****TOP PLATE**

**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

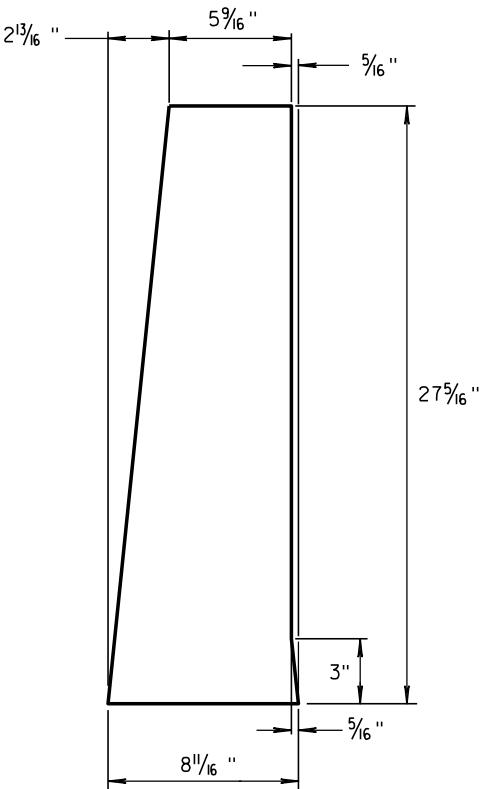
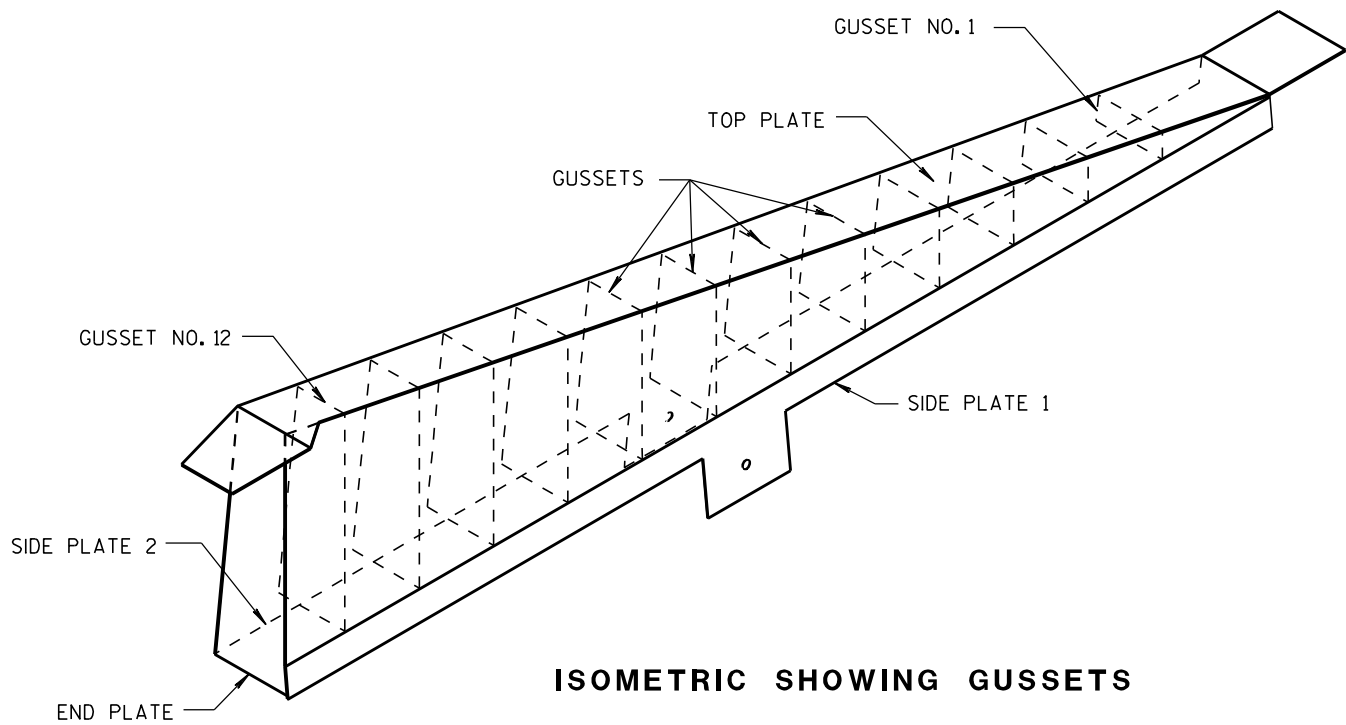
**SECTION C-C****NOTES**

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

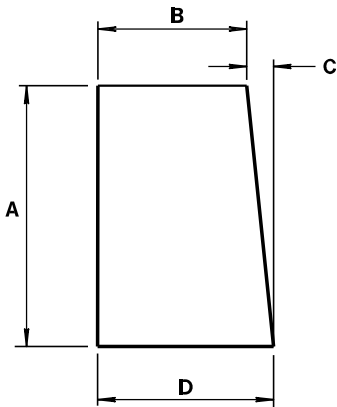
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

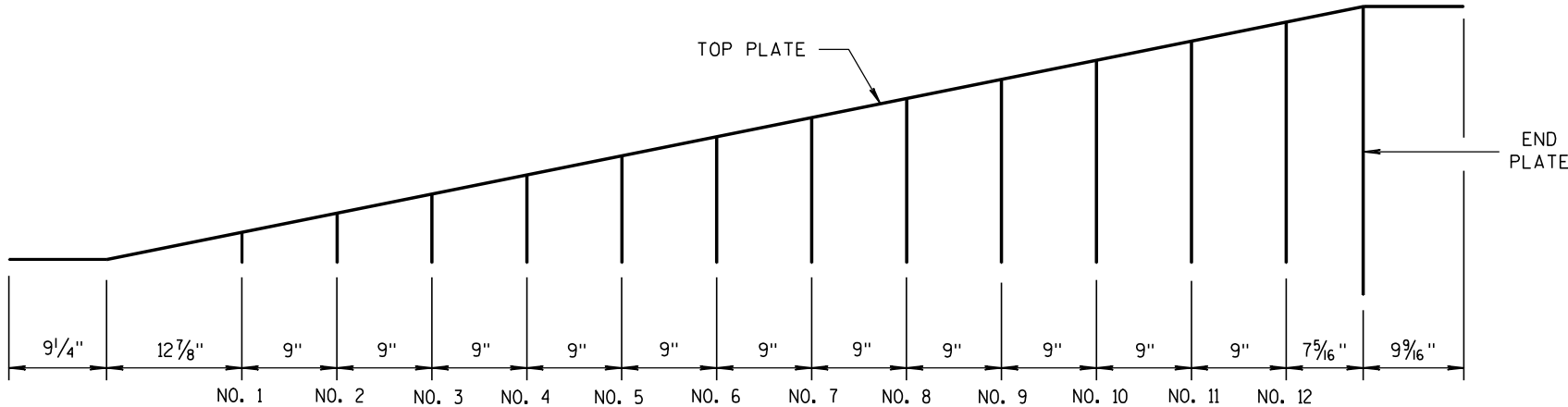


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

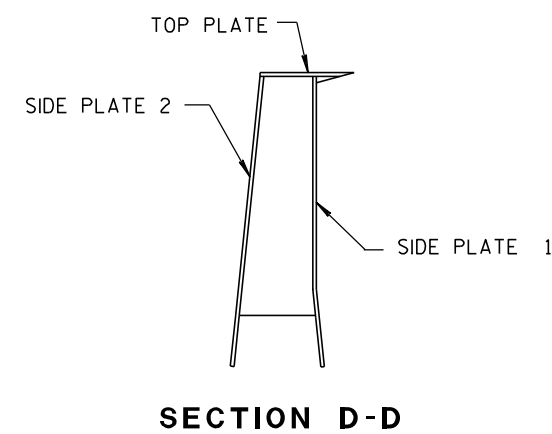
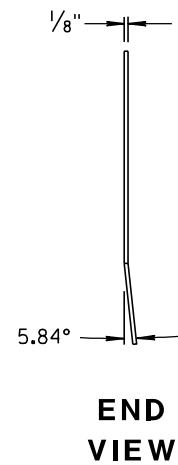
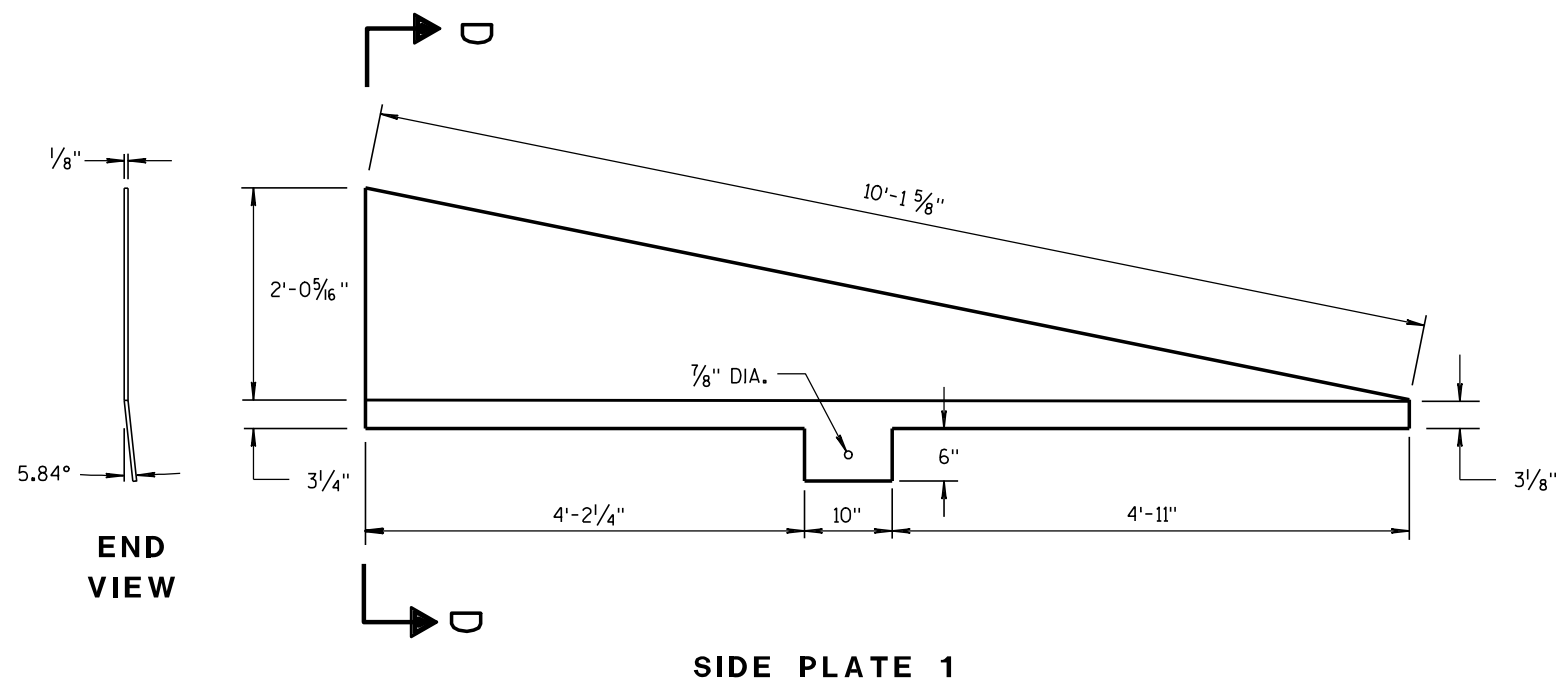
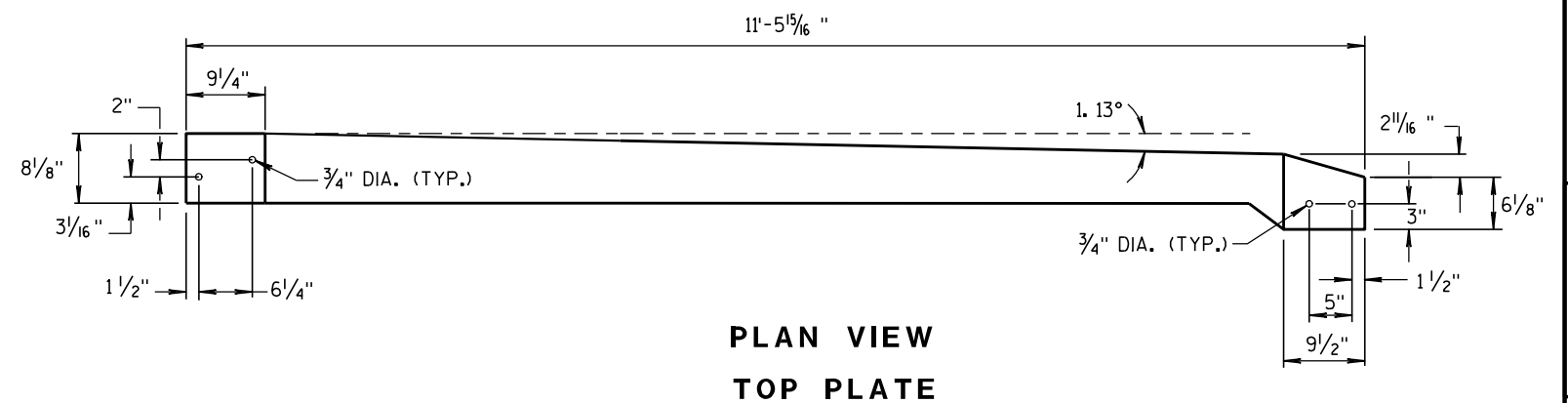
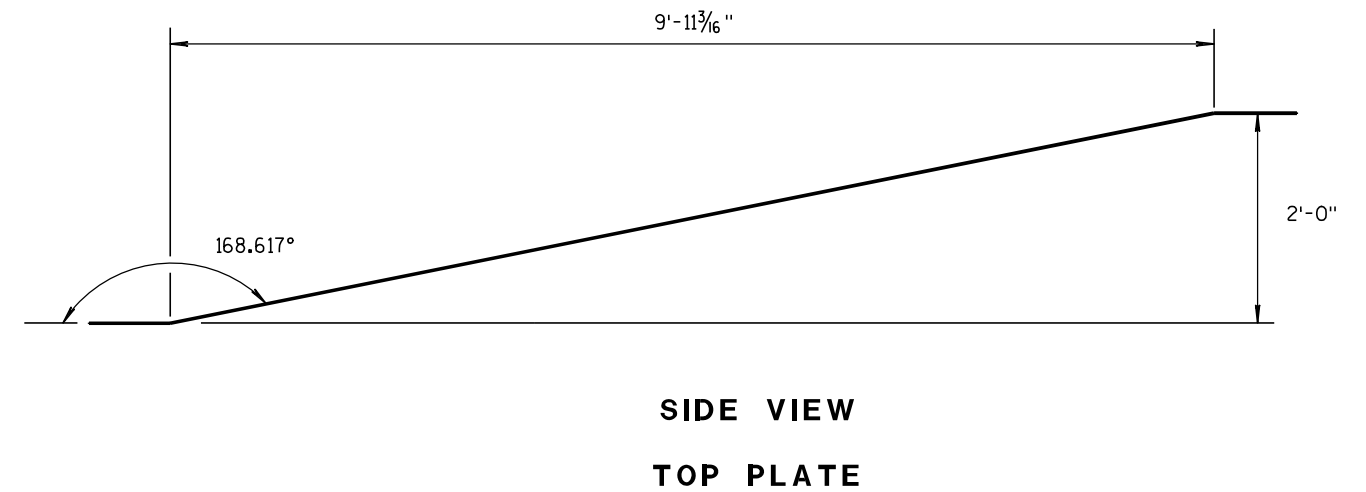
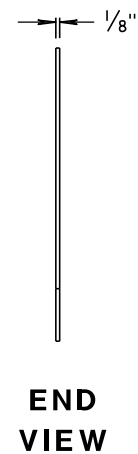
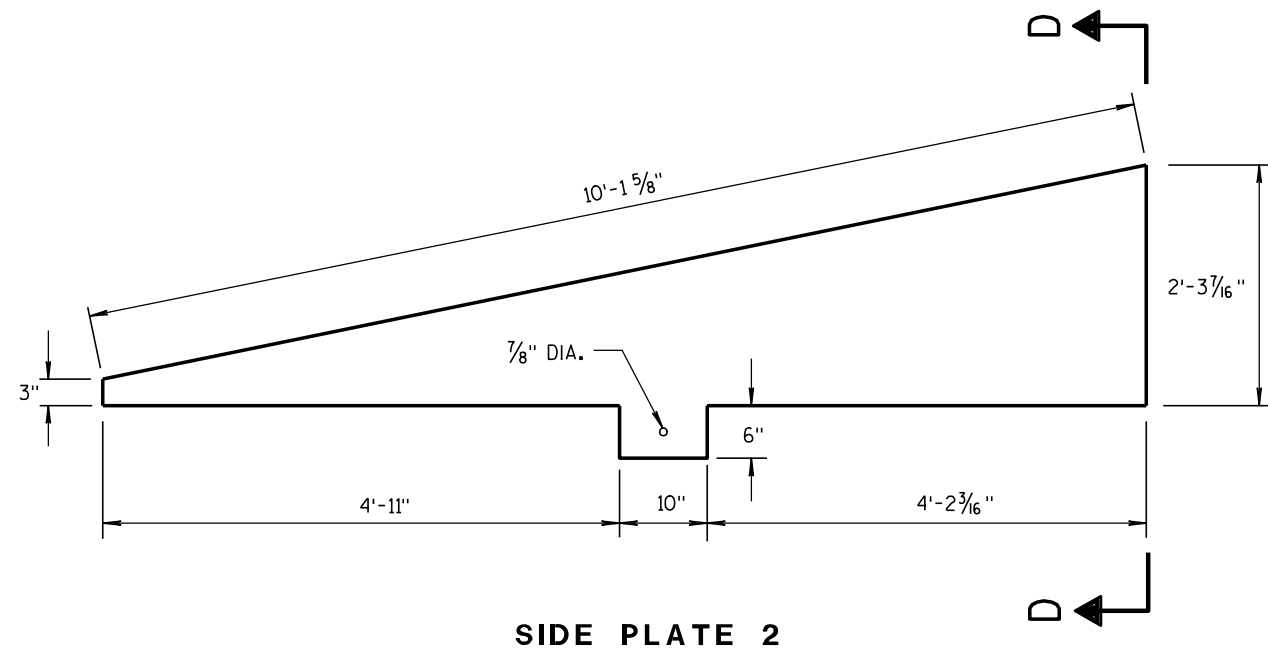
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

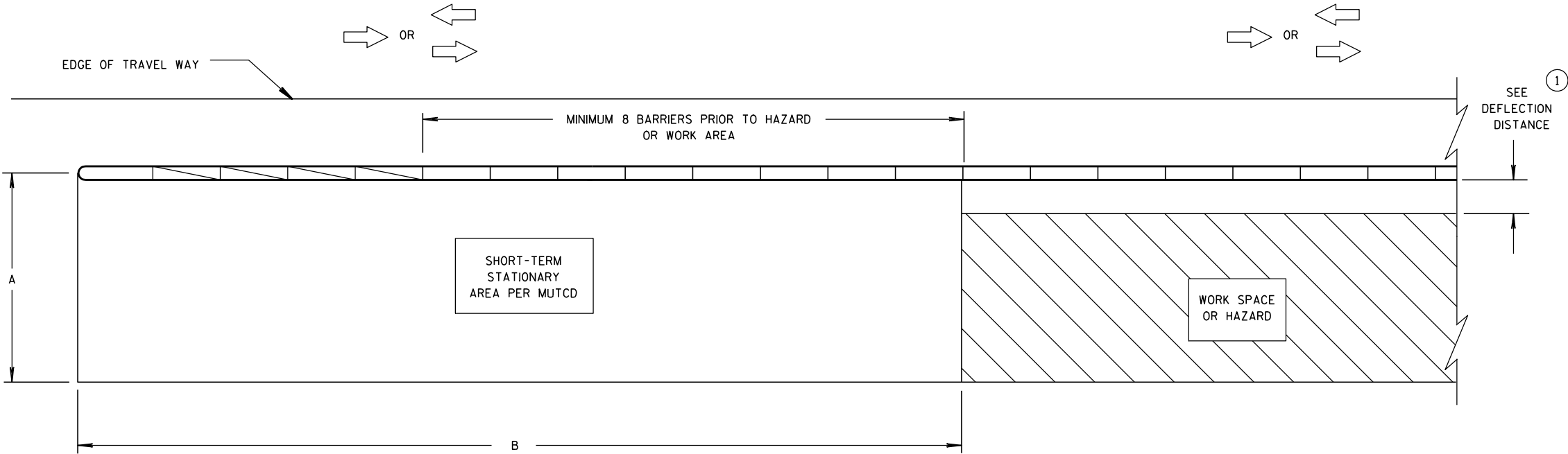
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARD DEVELOPMENT

ENGINEER



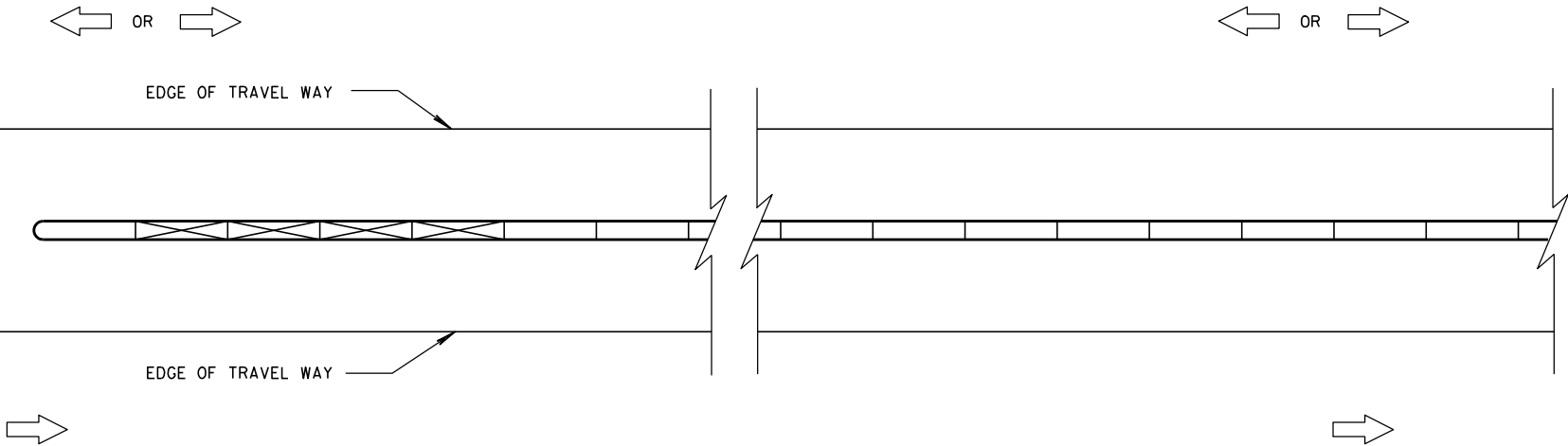
**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER**

DIMENSION A TABLE 2

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE 2

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER**

LEGEND

DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

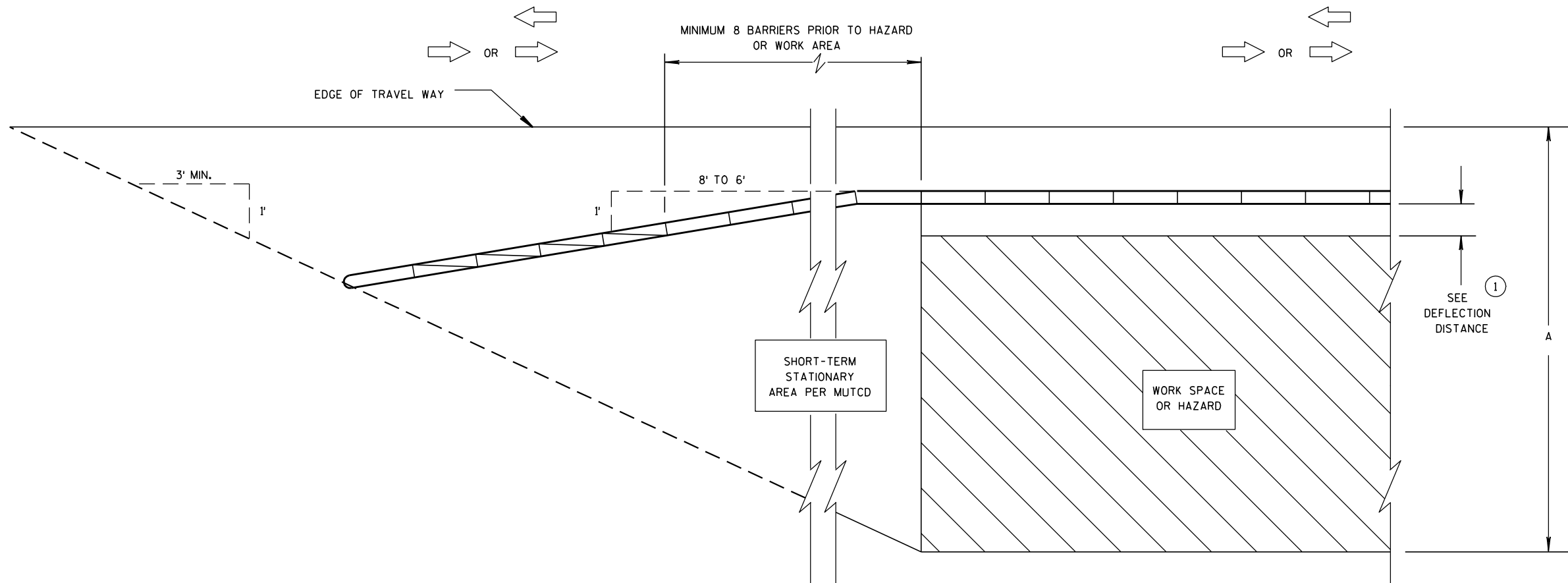
FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

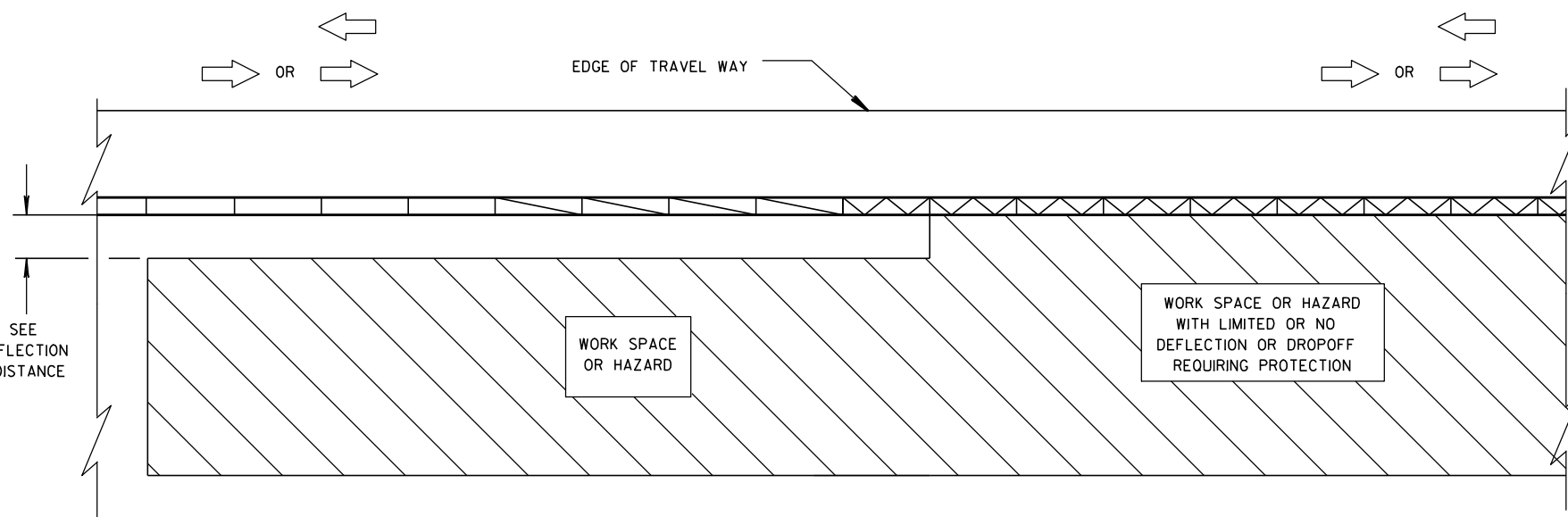
- 1 FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- 2 VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

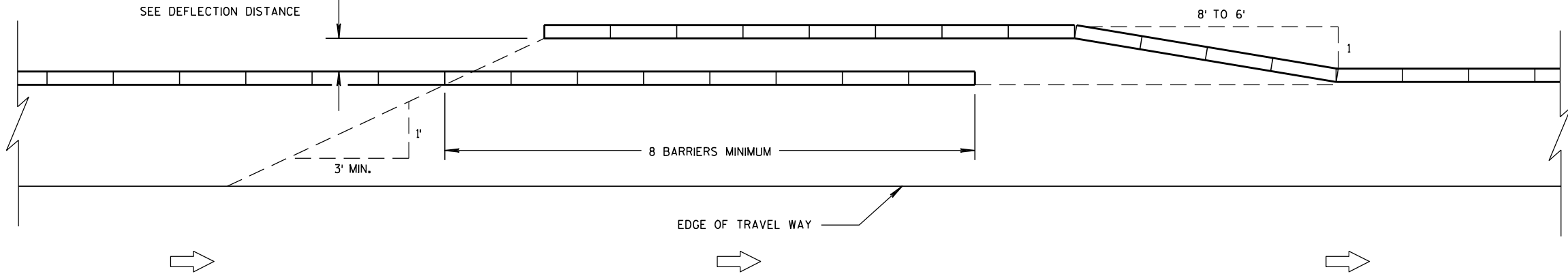
LEGEND

DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

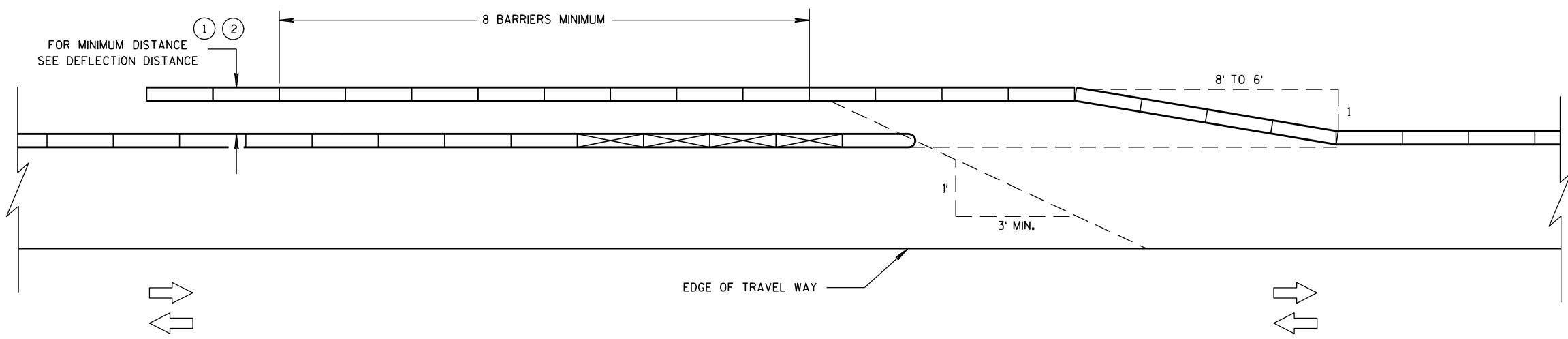
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE

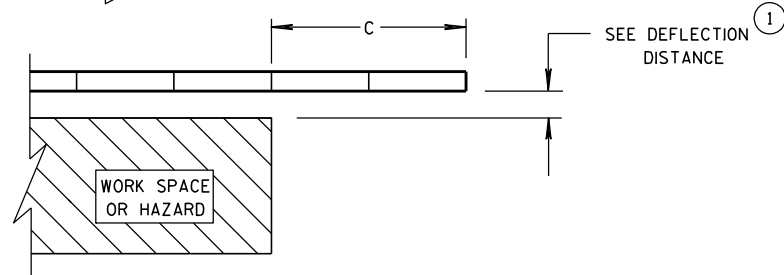


TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC

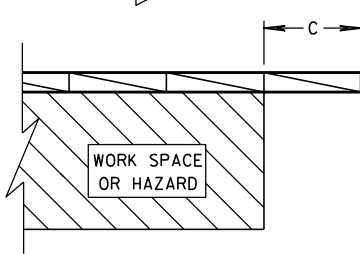
FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED



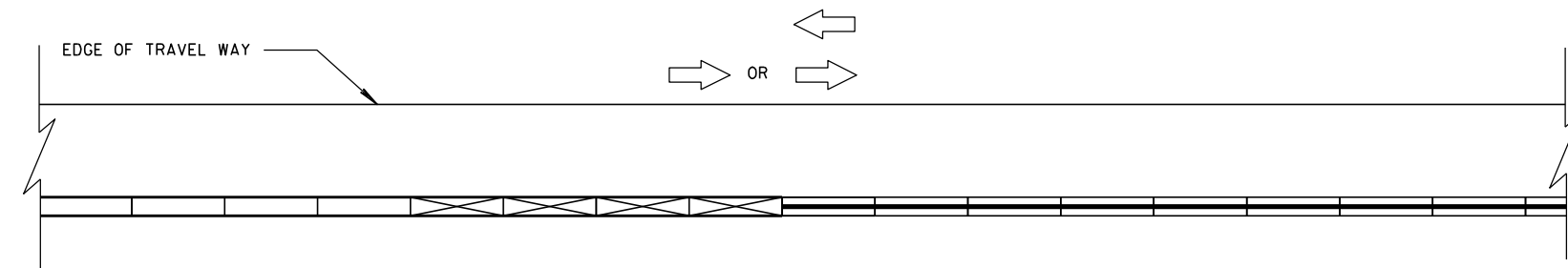
ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED

LEGEND

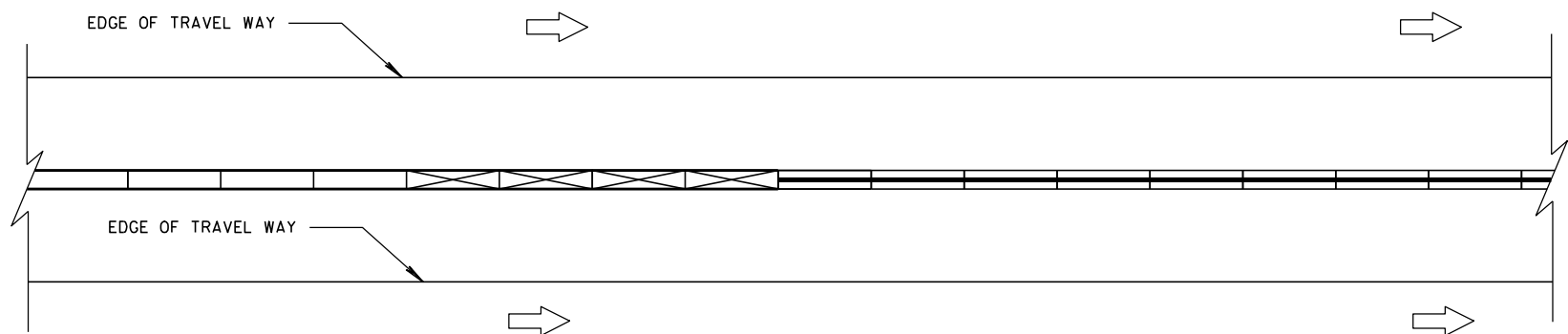
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



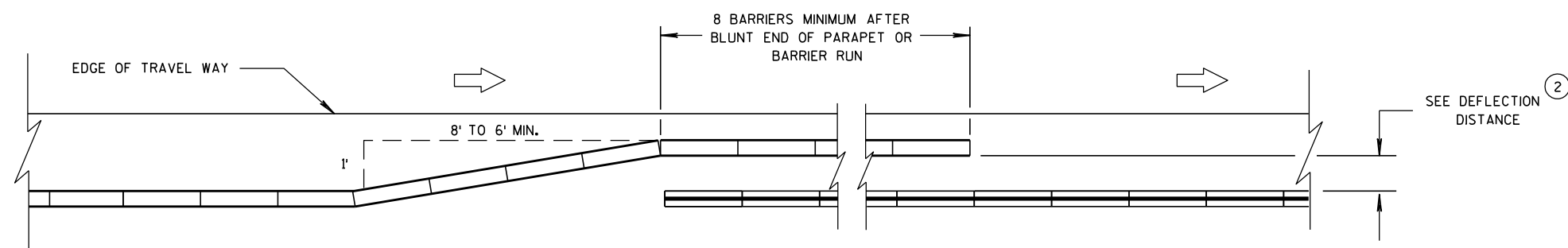
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



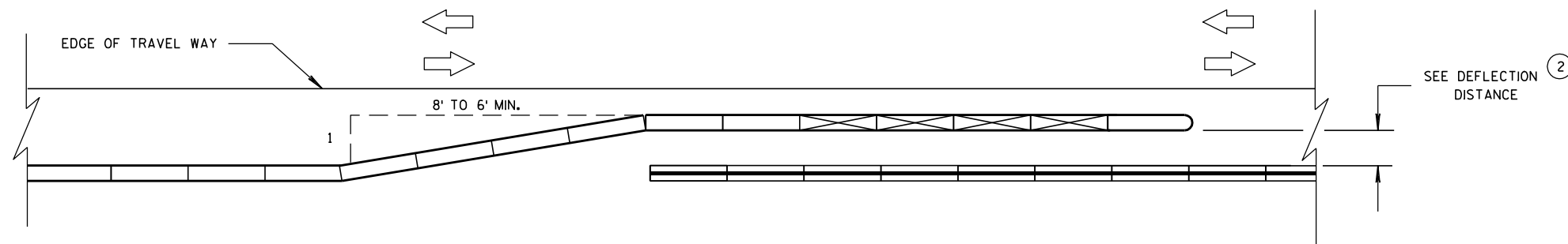
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

LEGEND

DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC**

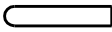
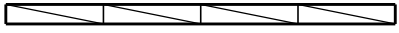
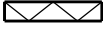
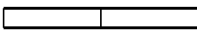


**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC**

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

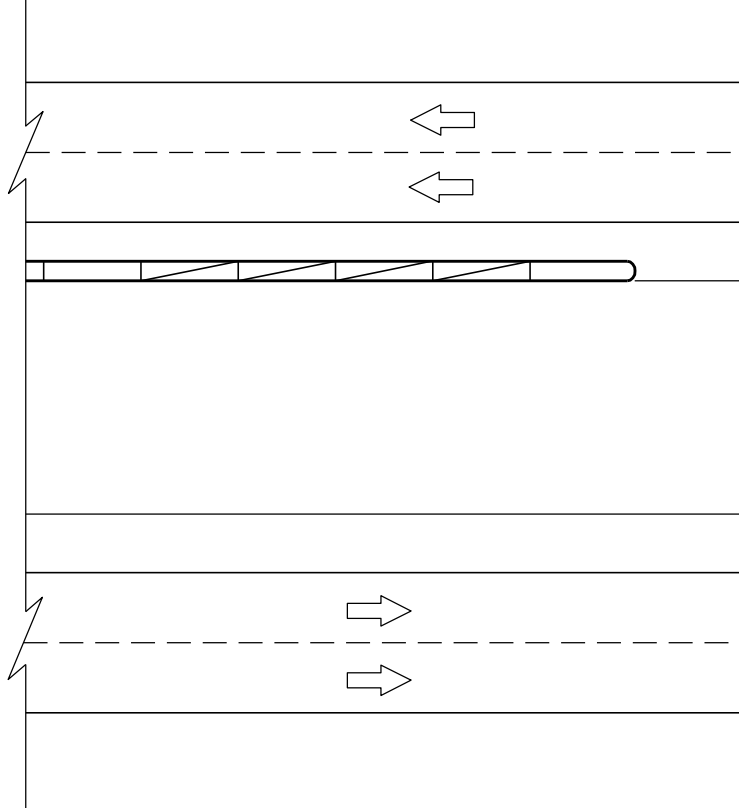
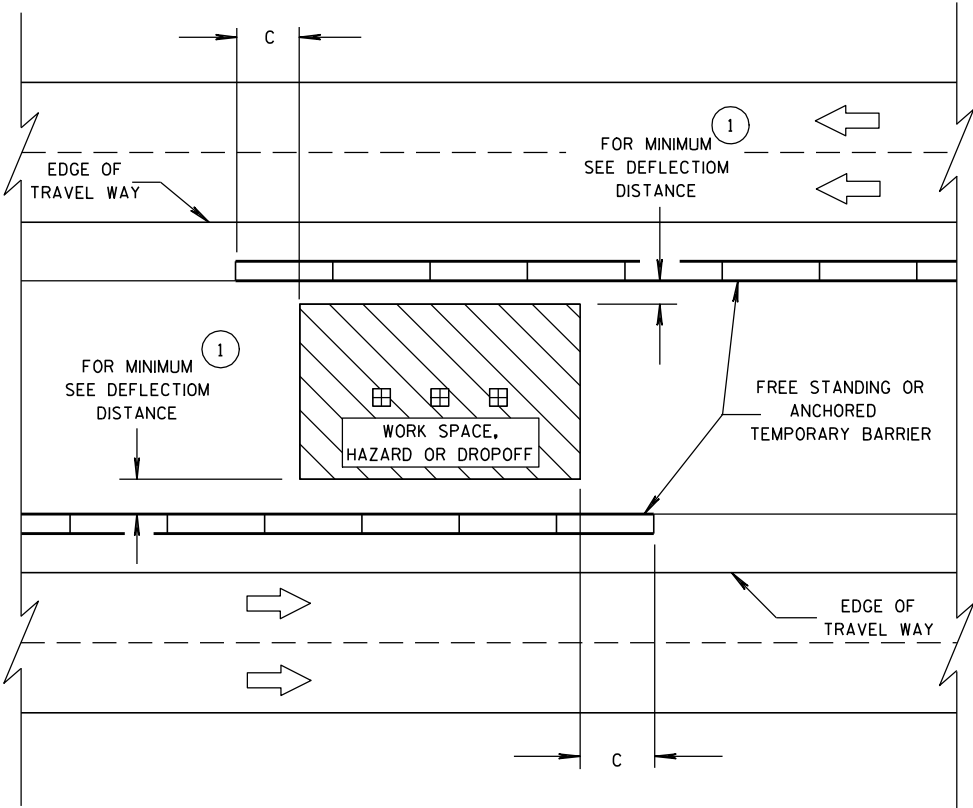
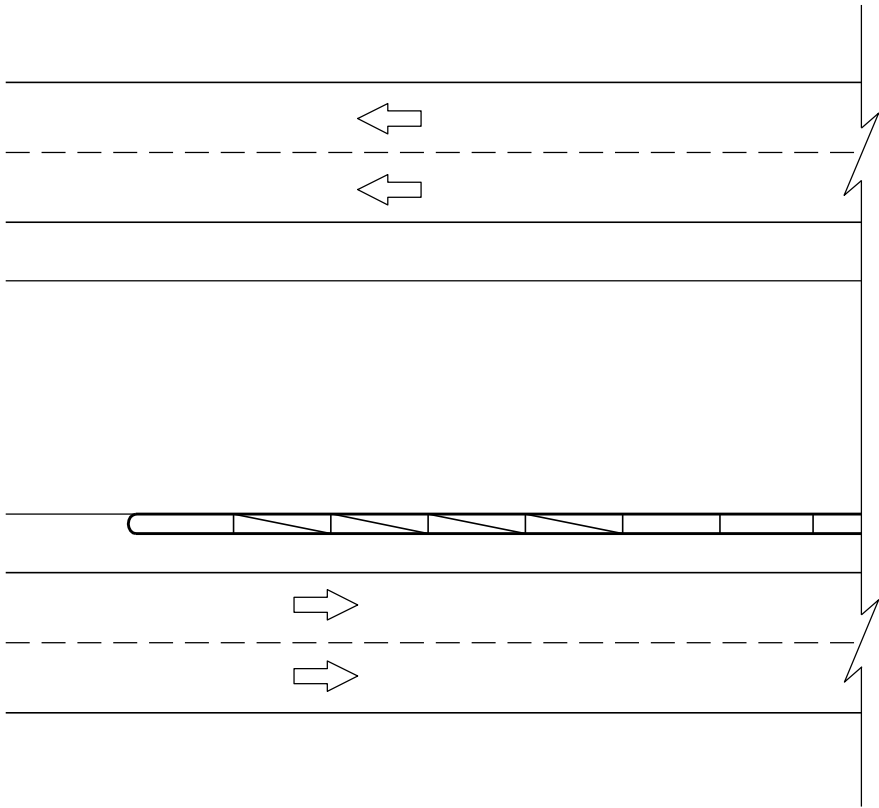
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

DIMENSION C TABLE

2

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100

6



6

S.D.D. 14 B 8-1e

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

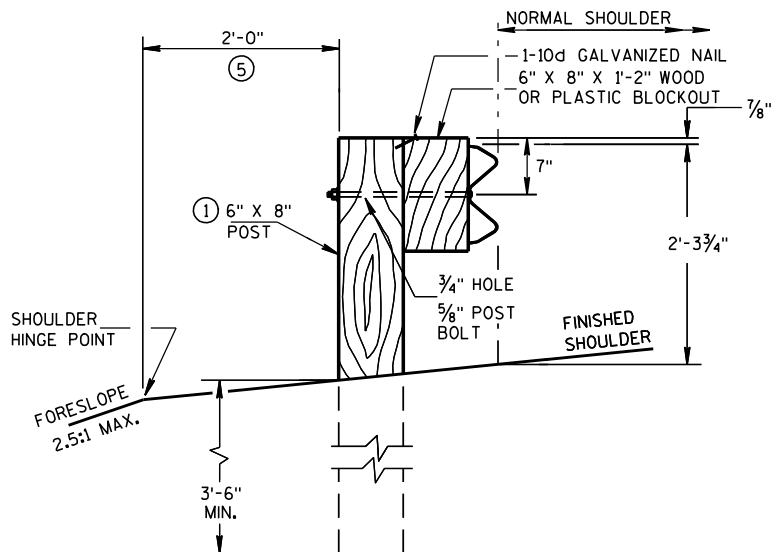
S.D.D. 14 B 8-1e

GENERAL NOTES

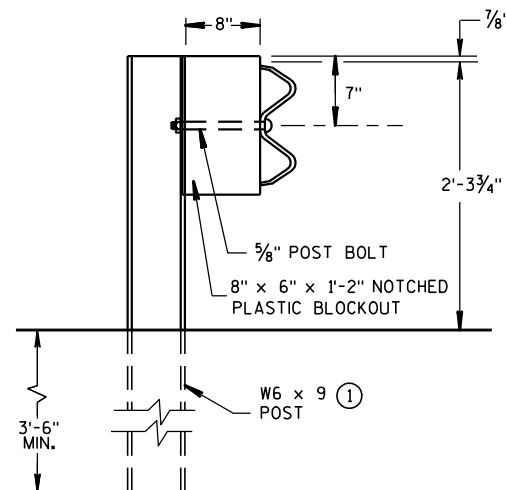
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

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

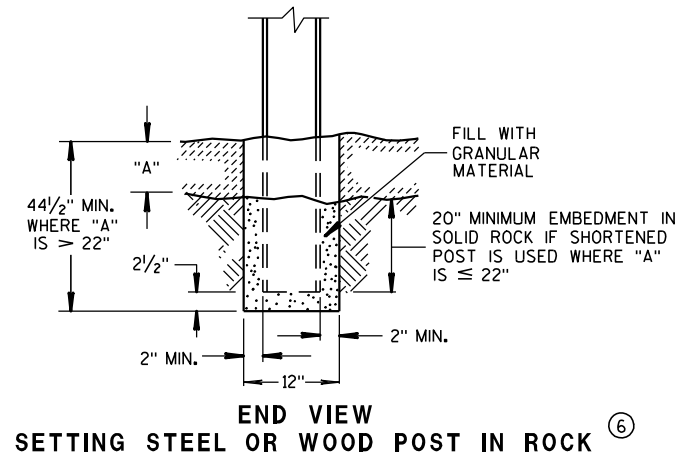
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



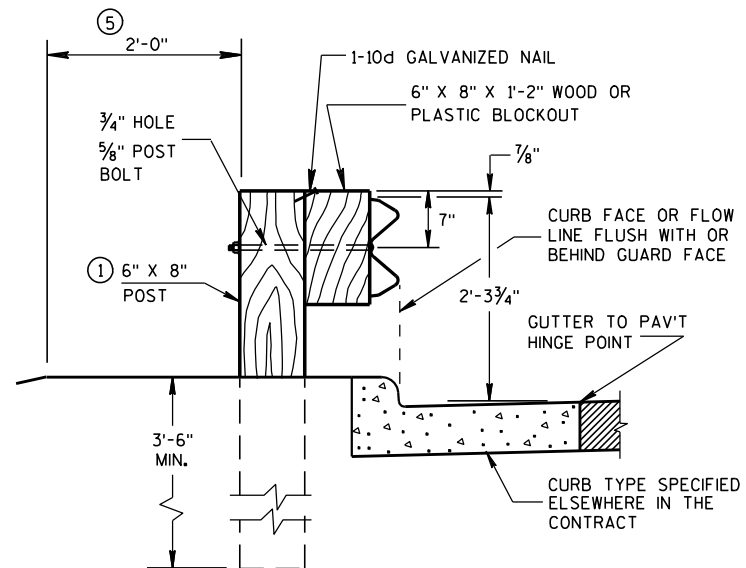
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



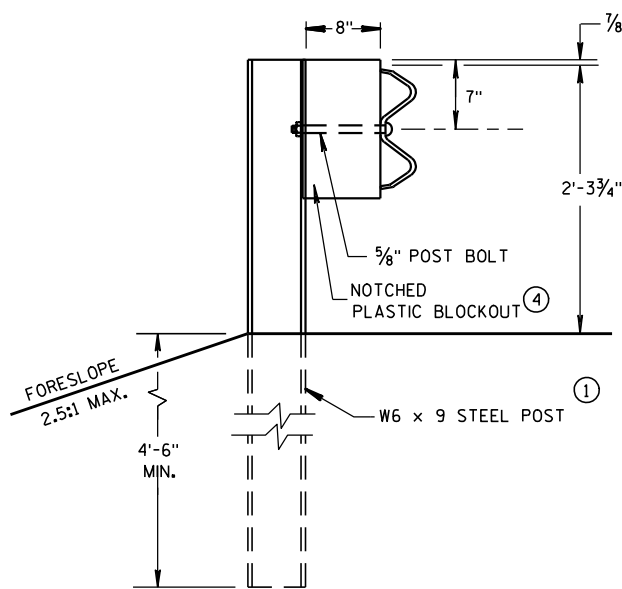
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



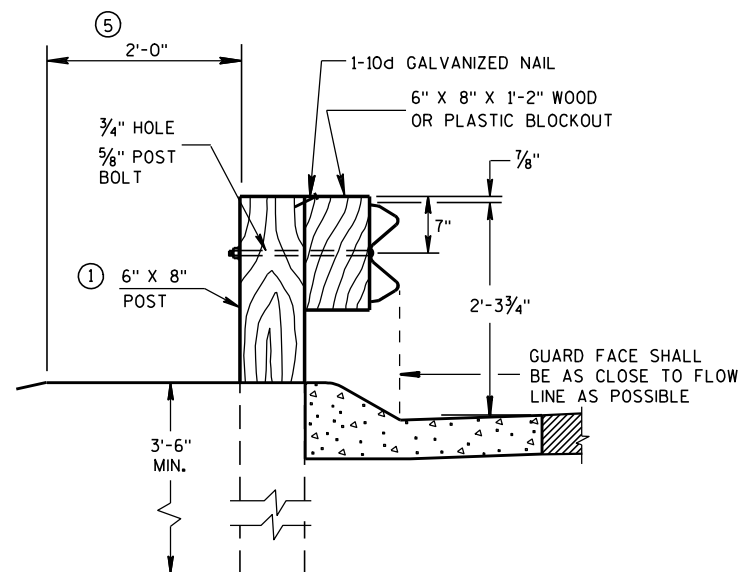
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



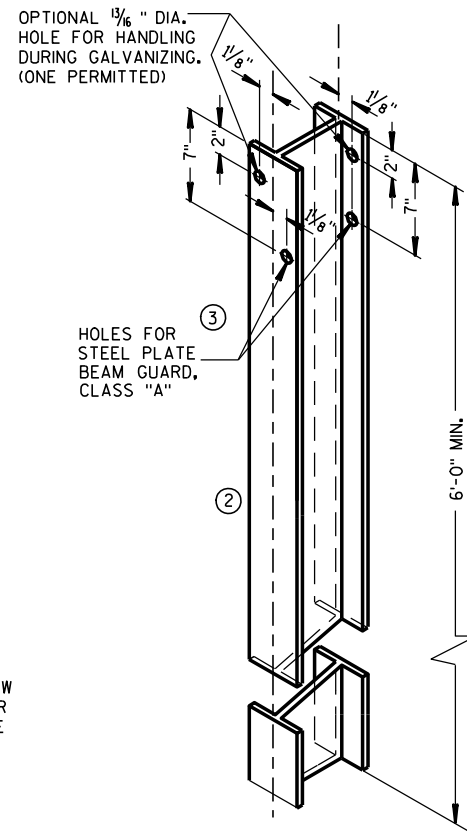
END VIEW
LOCATED ALONG A CURBED ROADWAY



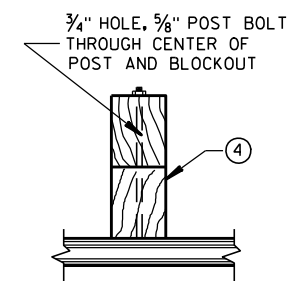
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



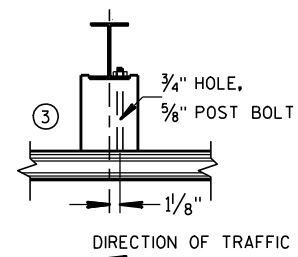
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



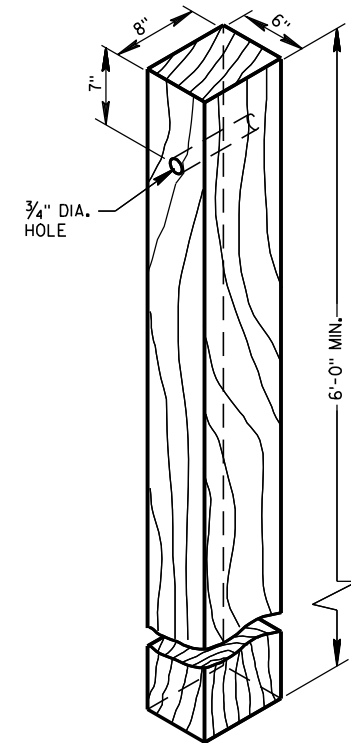
STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 1 3/8" DIAMETER EXCEPT AS NOTED



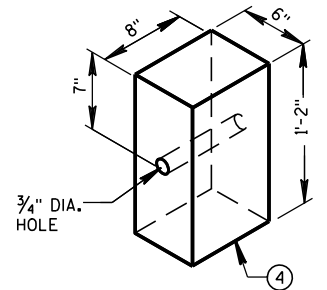
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



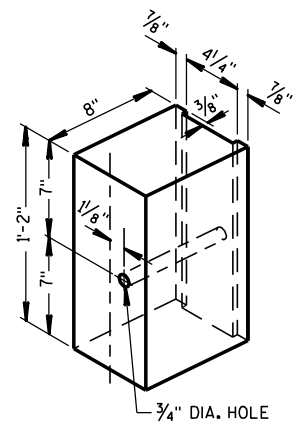
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL



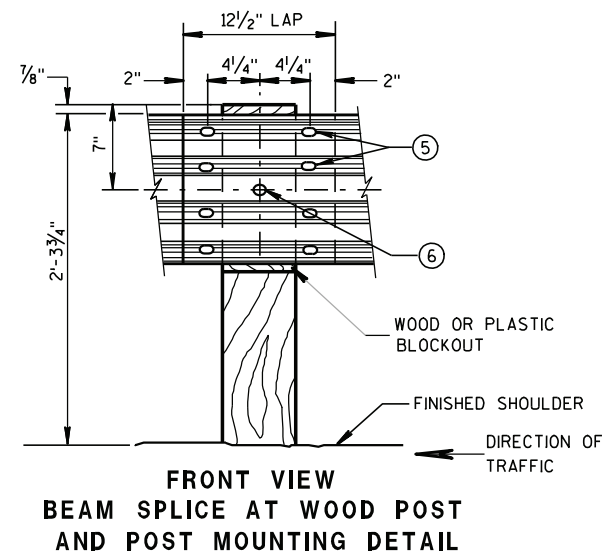
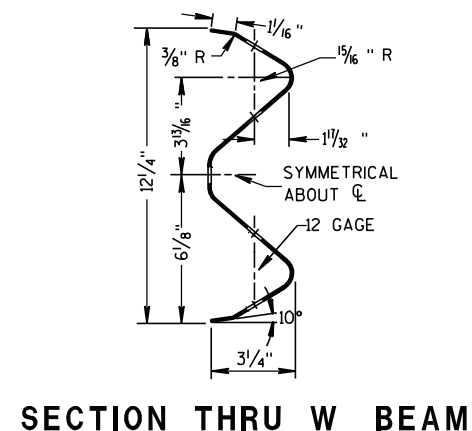
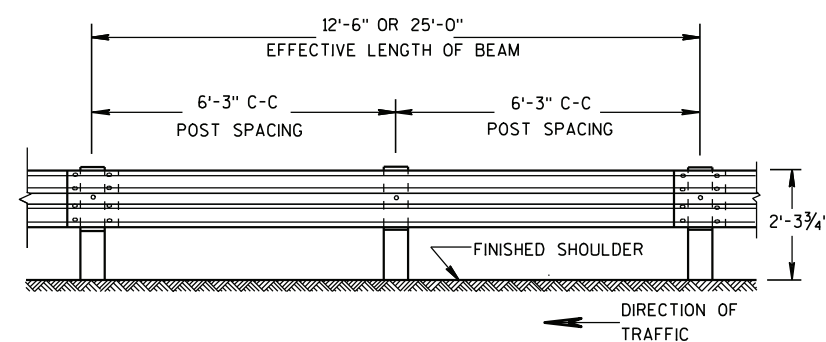
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



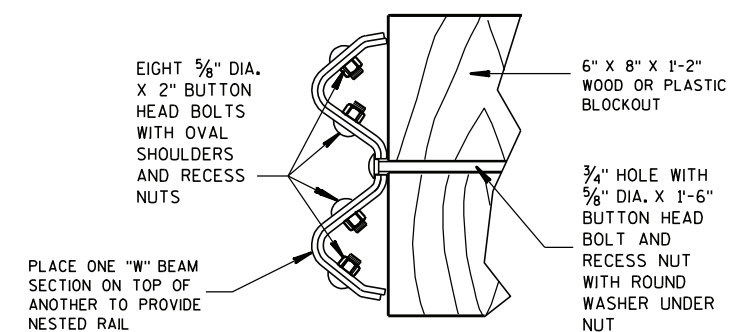
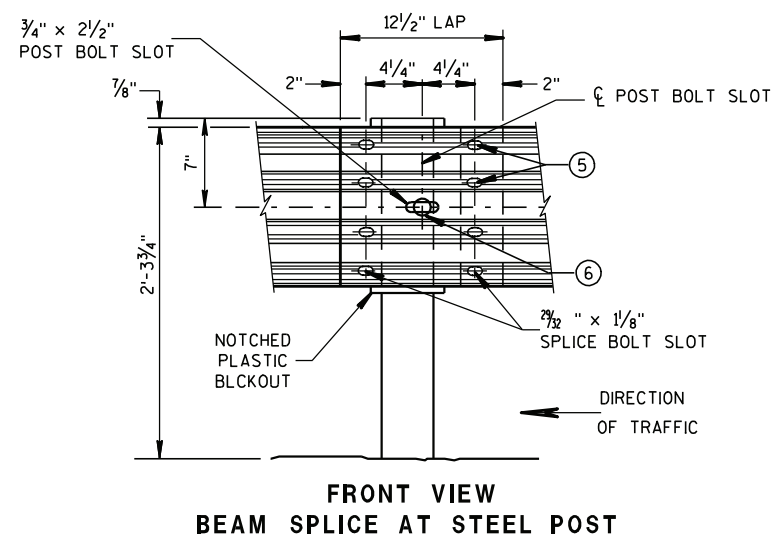
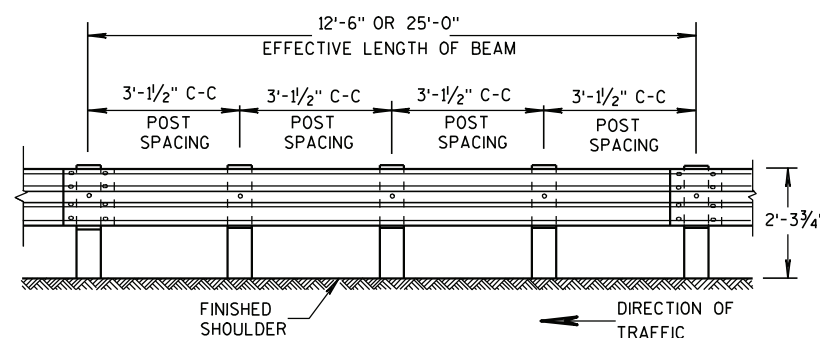
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

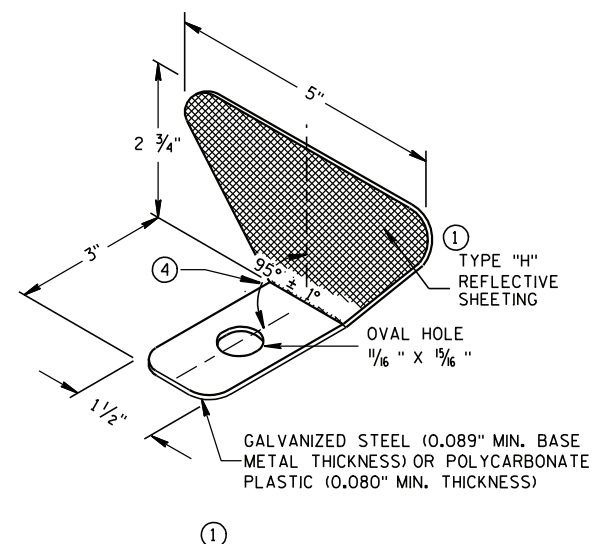
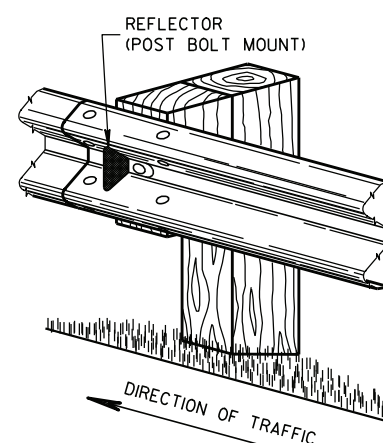


- ## GENERAL NOTES
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
 - ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑤ 8 - $\frac{5}{8}$ " ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
 - ⑥ $\frac{5}{8}$ " ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



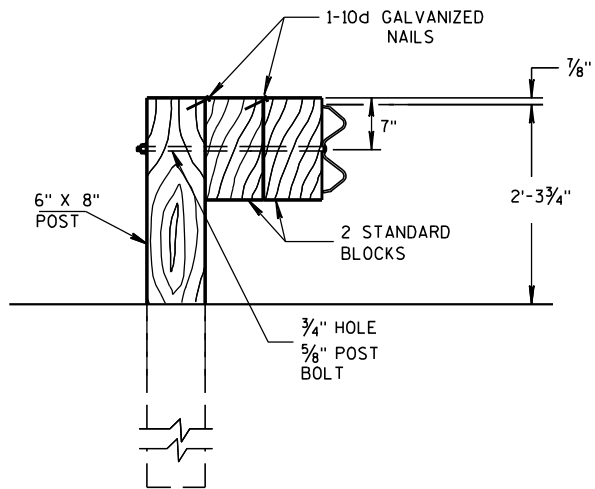
NESTED W BEAM (NW)
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (3)	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 (4)	3



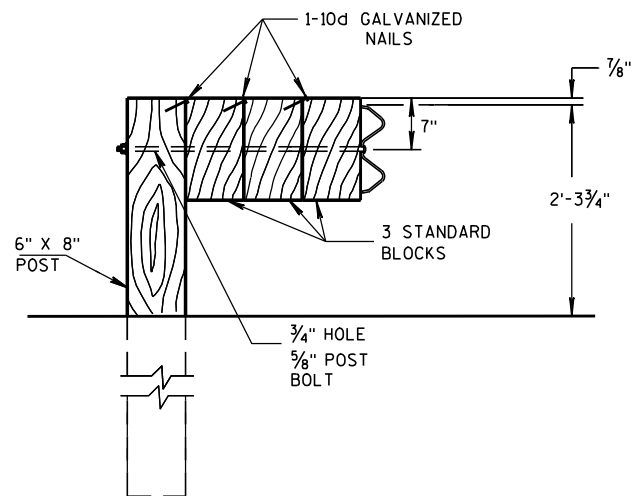
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

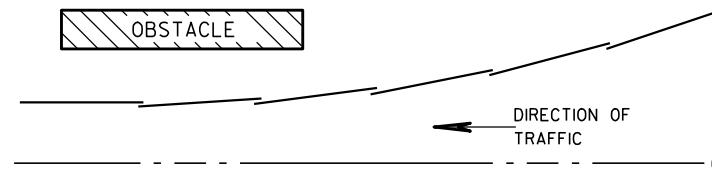


DETAIL FOR TRIPLE BLOCKS

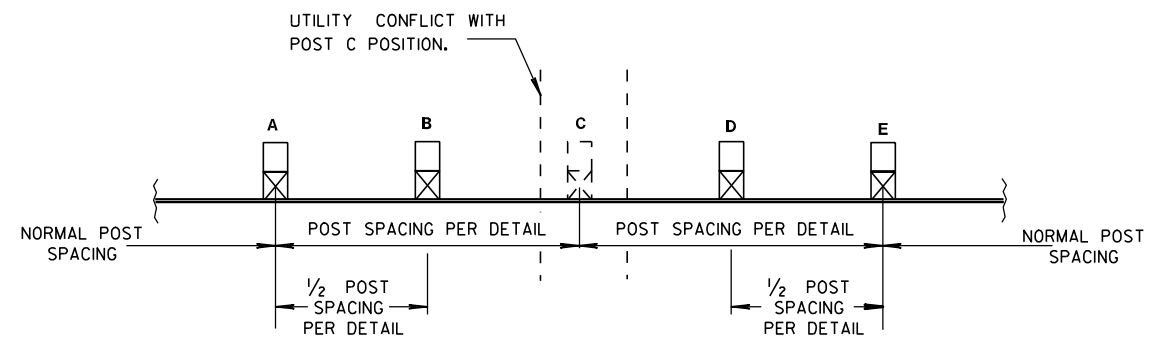
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

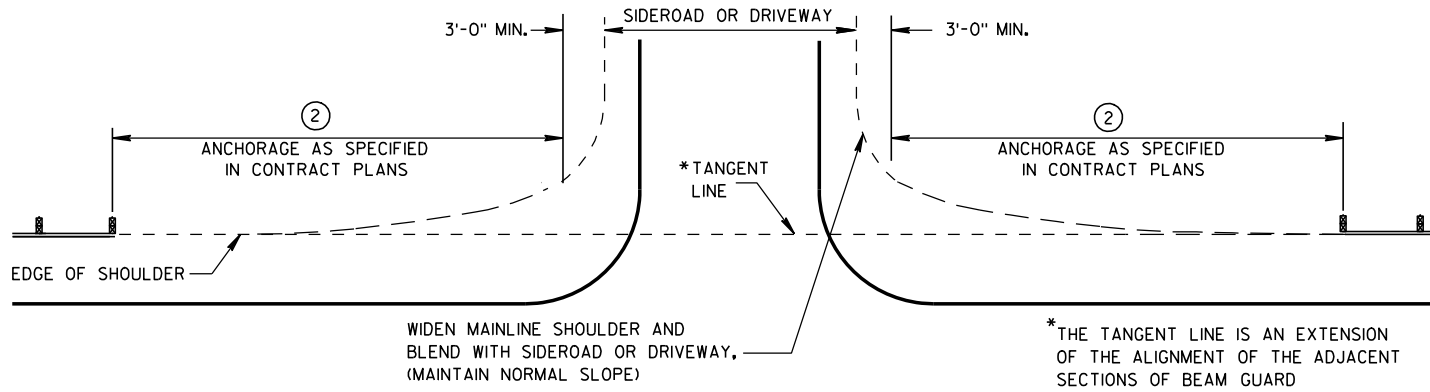
APPROVED

5/23/11

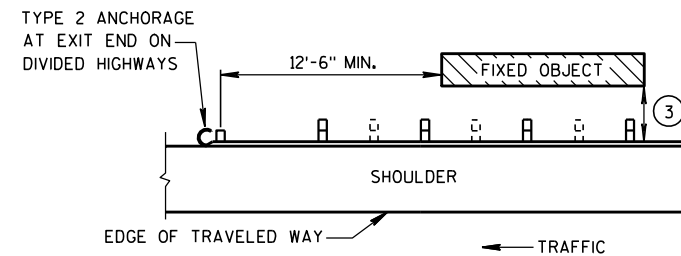
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

GENERAL NOTES

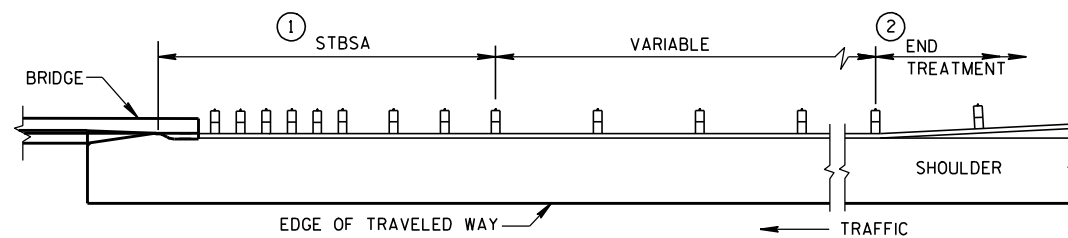
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

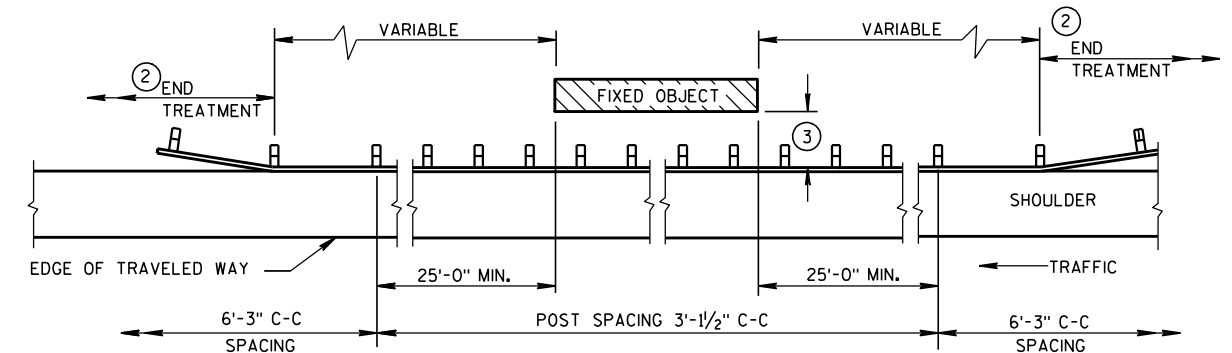
THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"



BEAM GUARD AT FULL WIDTH BRIDGES

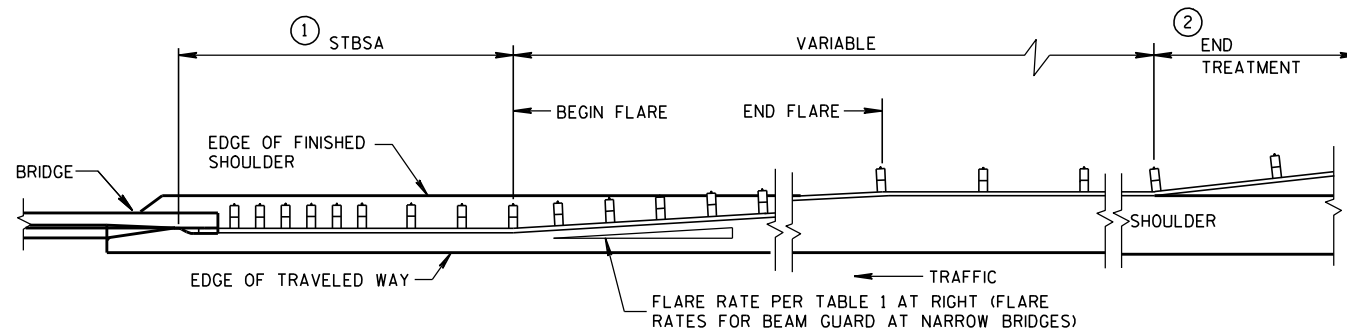


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

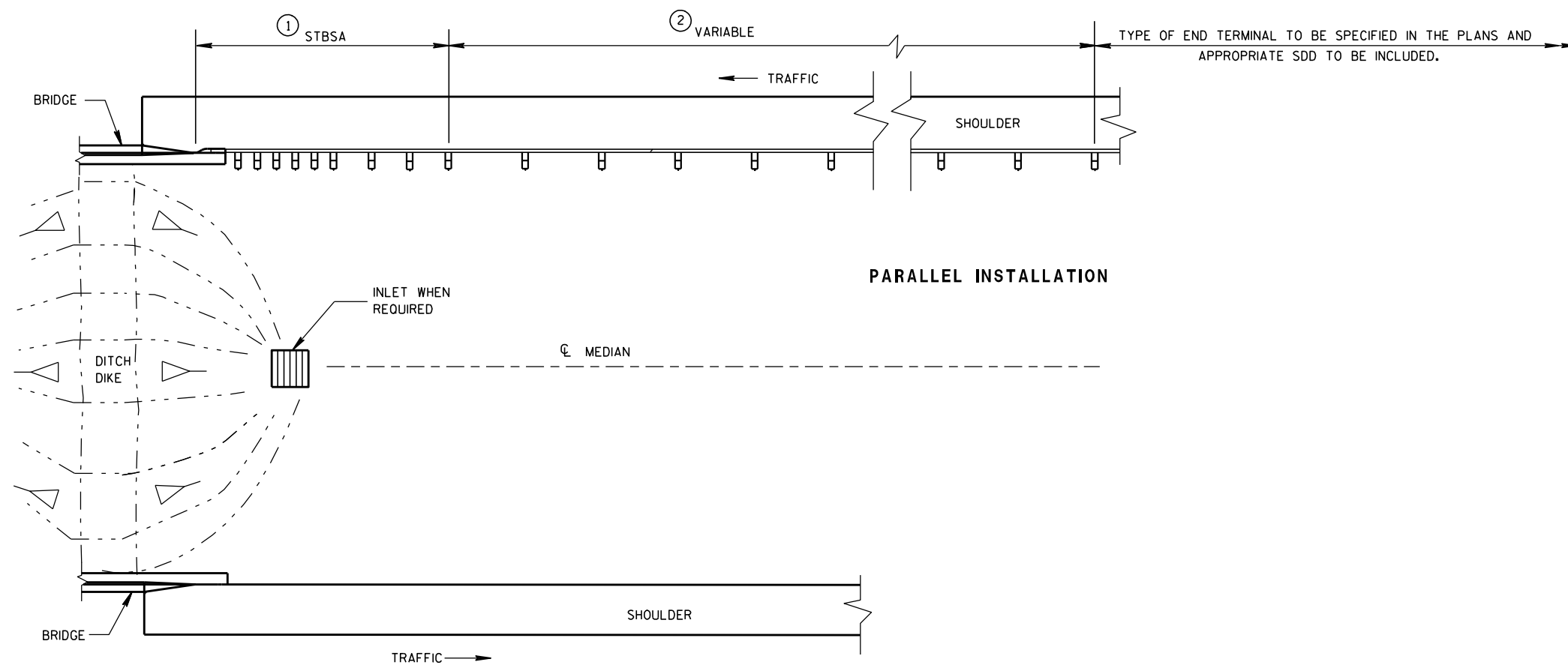


BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

GENERAL NOTES

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

STEEL PLATE BEAM GUARD
CLASS "A" AT
MEDIAN APPROACH TO BRIDGES

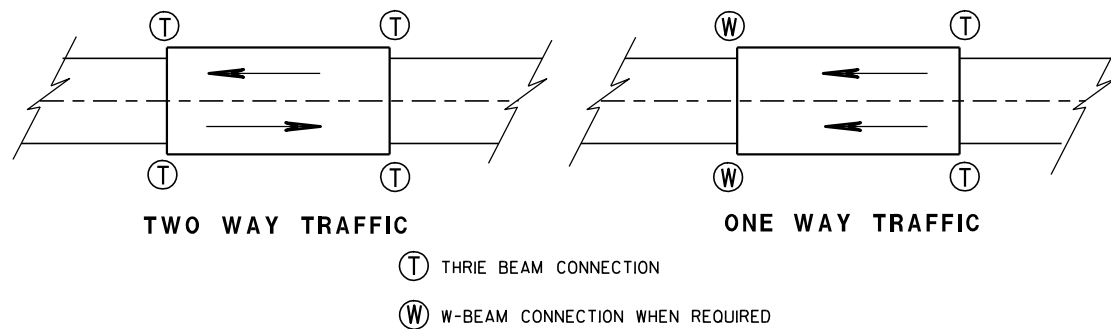
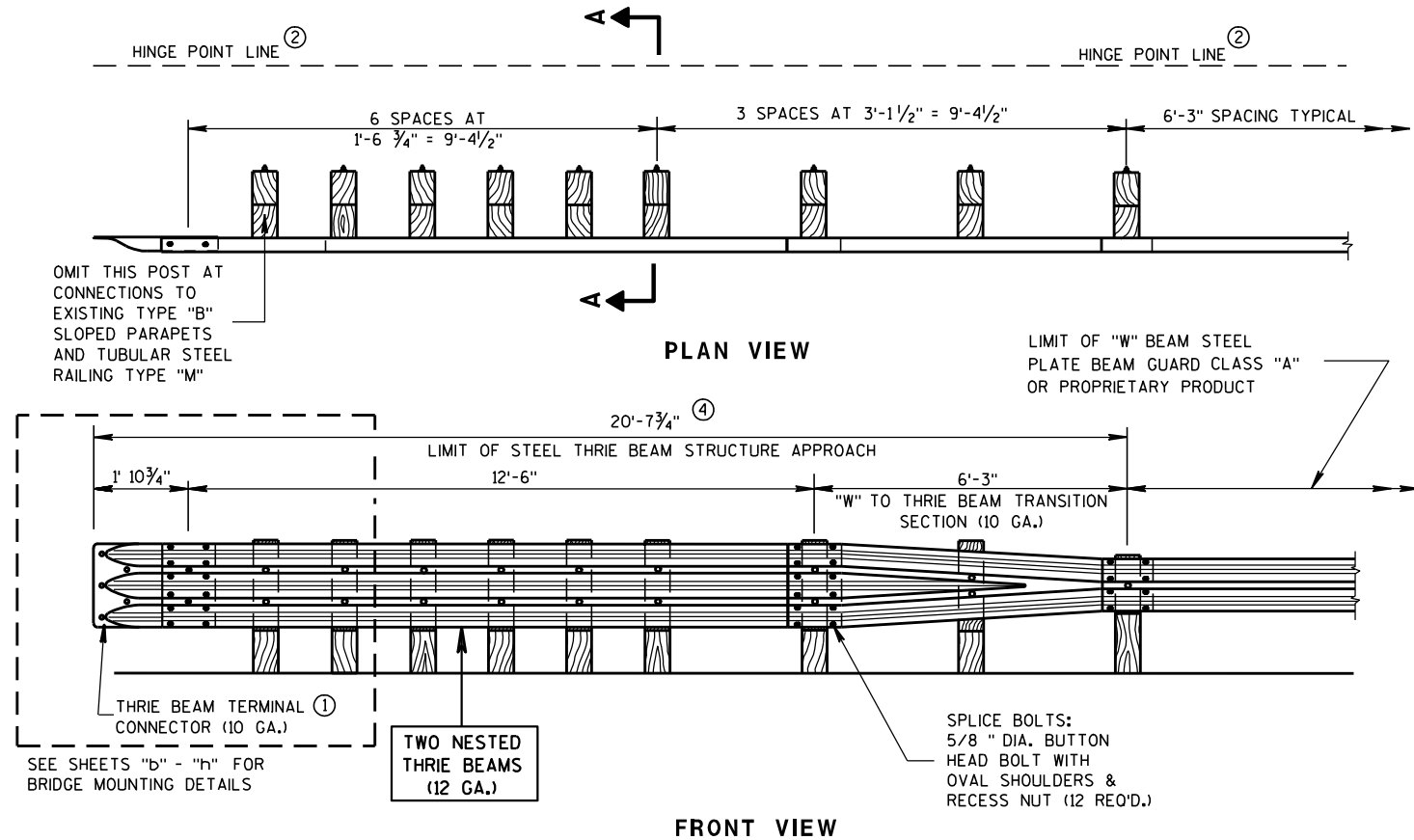
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

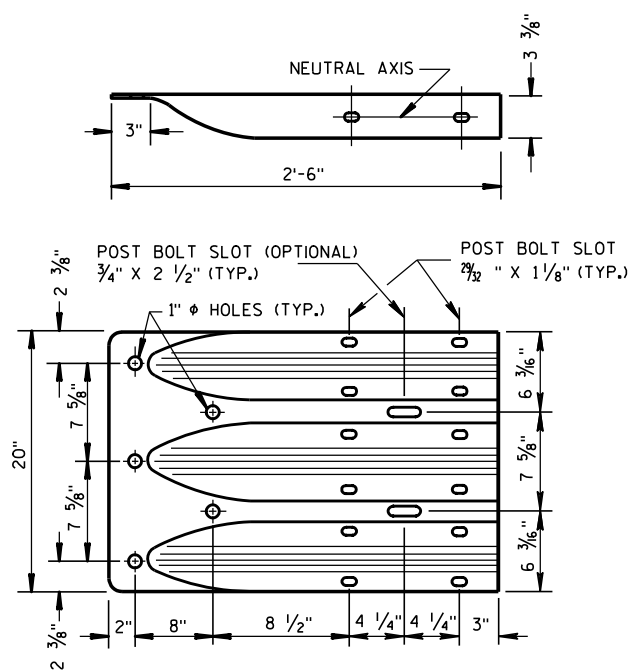
8-21-07
DATE

FHWA

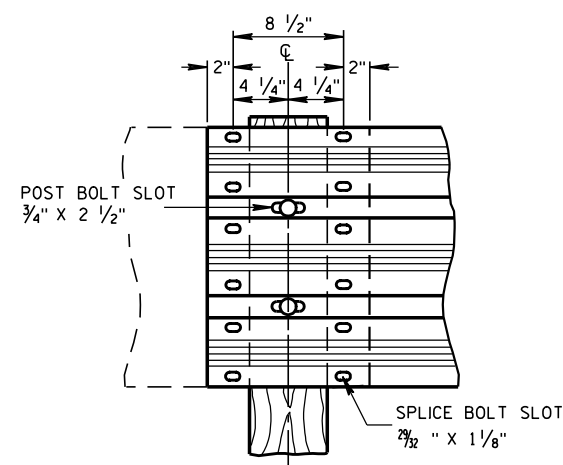
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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



THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

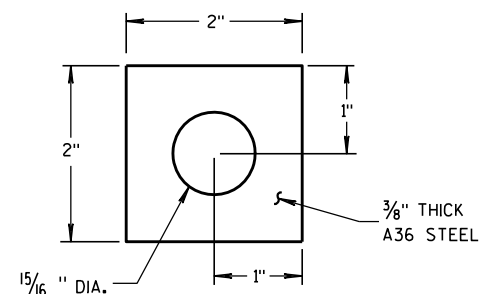
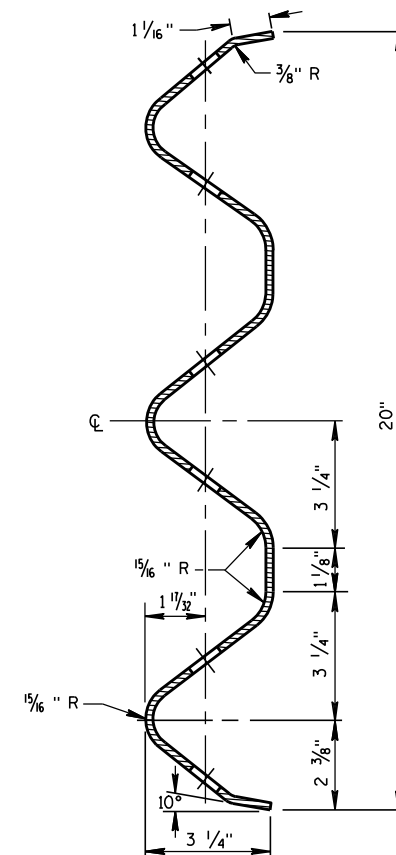


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

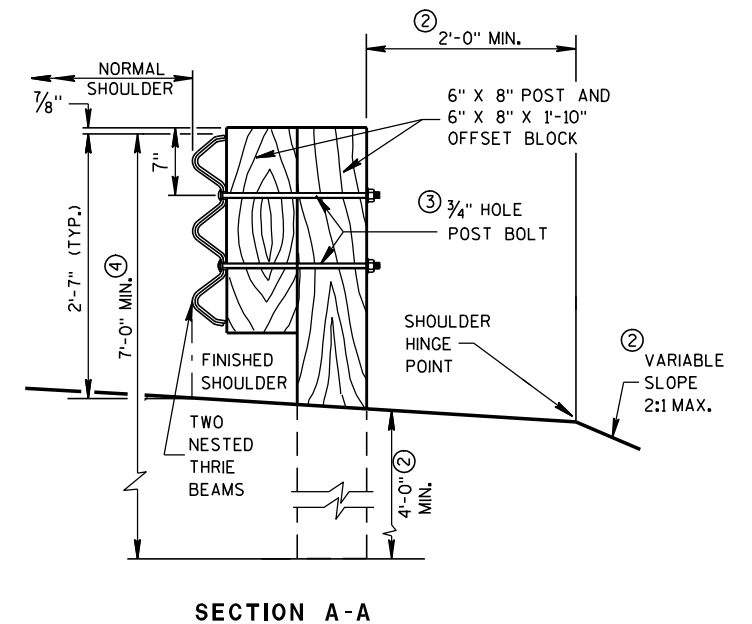
GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

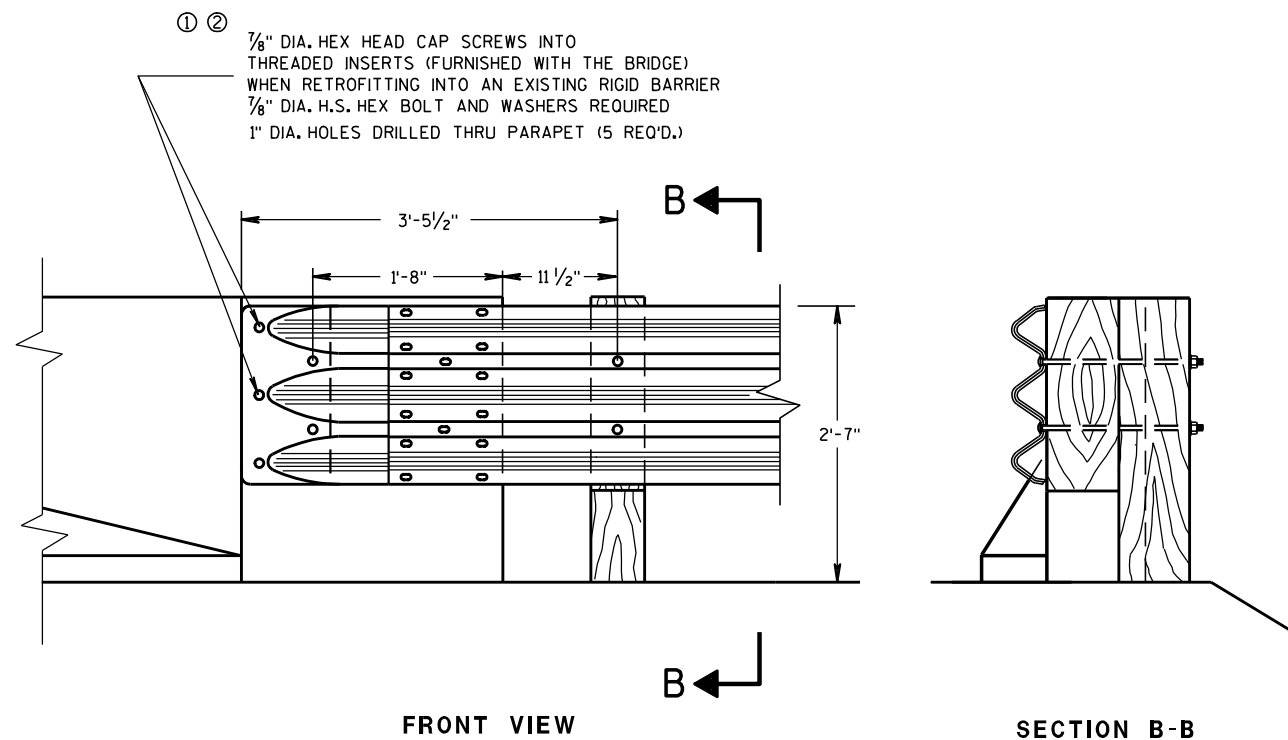
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8/31/2012

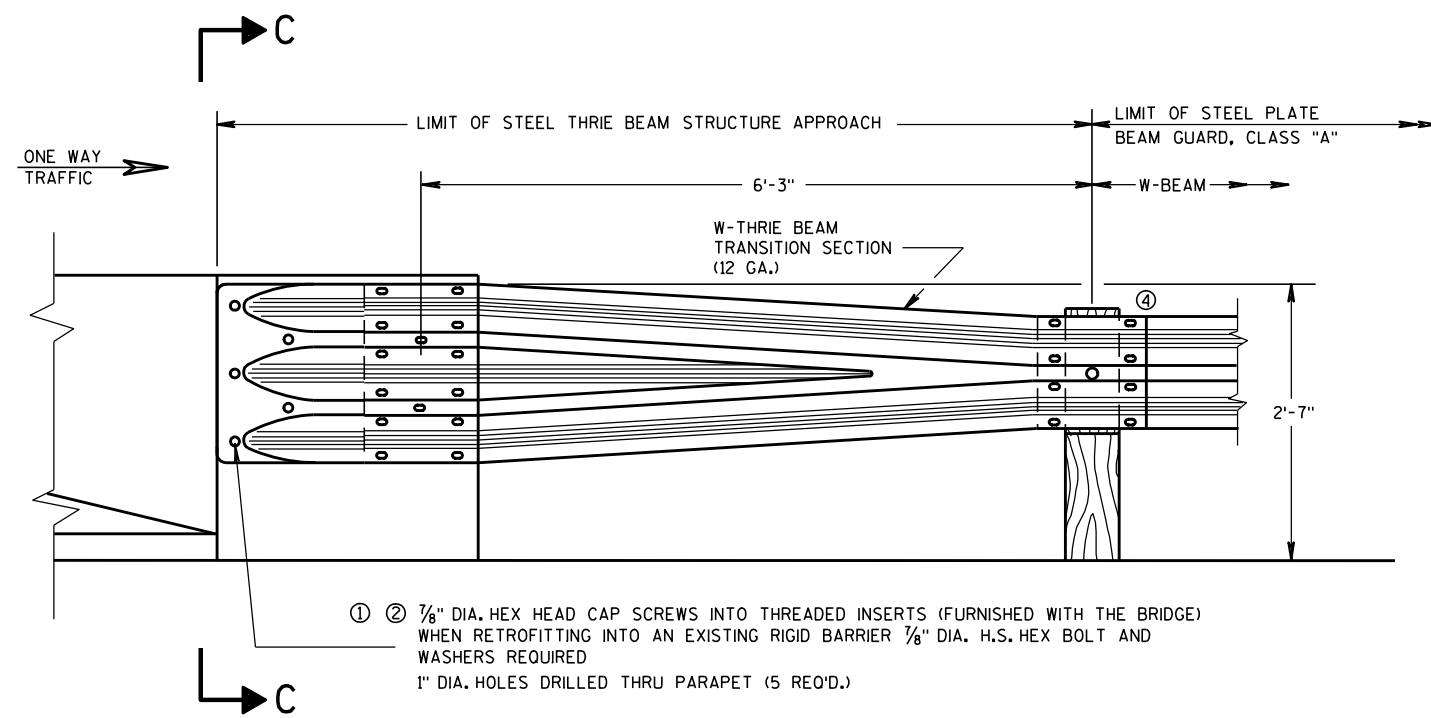
DATE

FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



**THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS**



**W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**

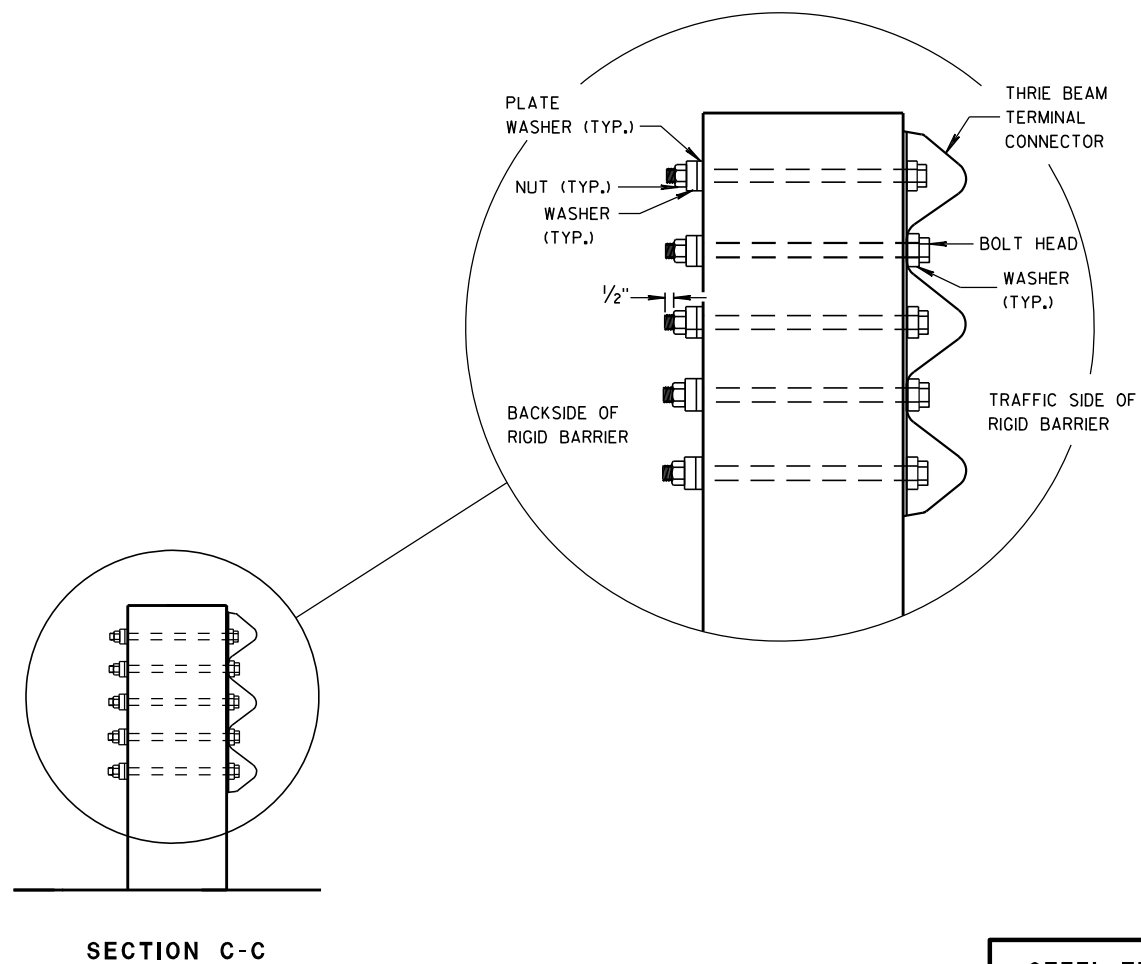
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

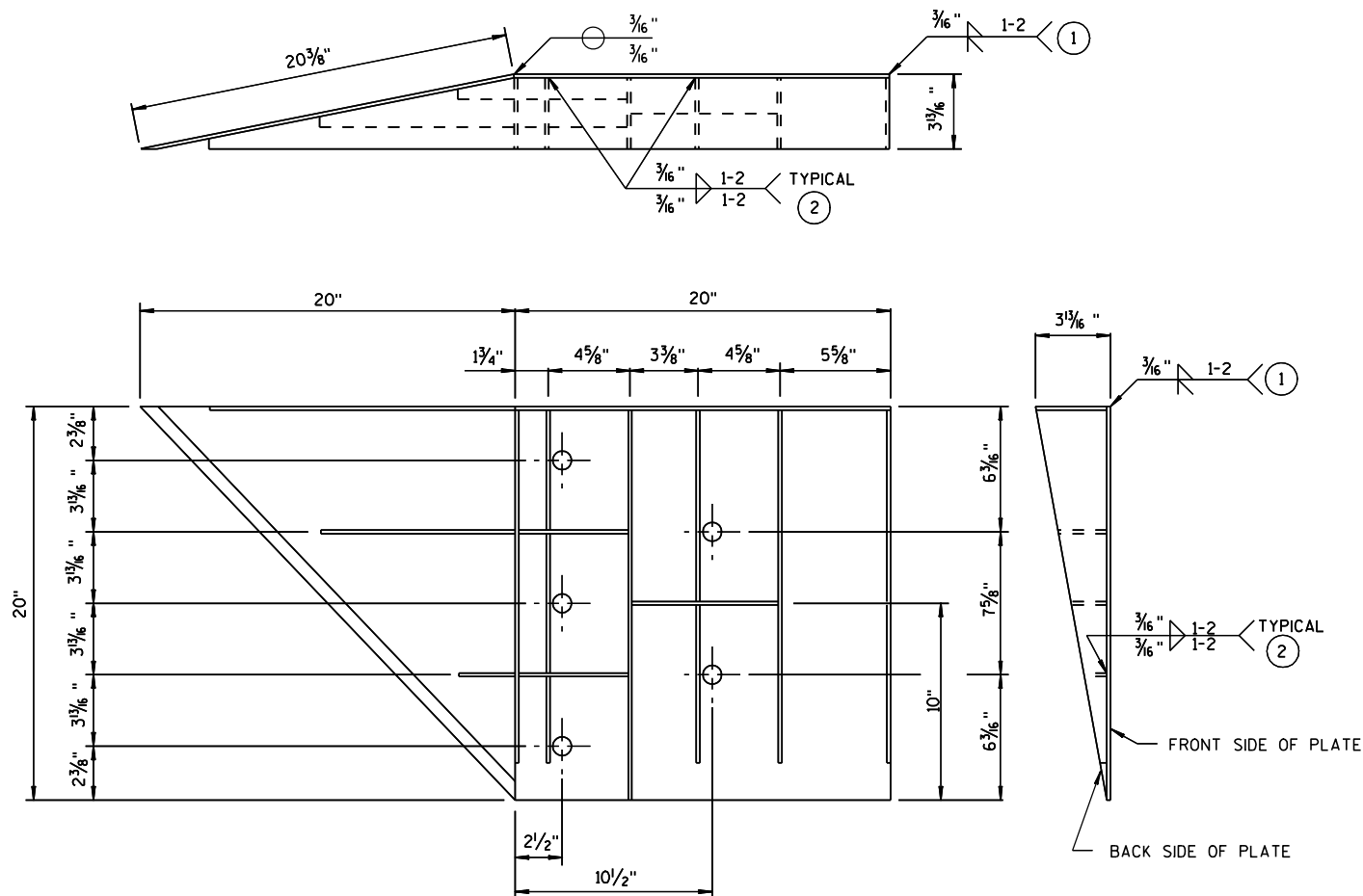
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 5/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 3/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 7/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

GENERAL NOTES

- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

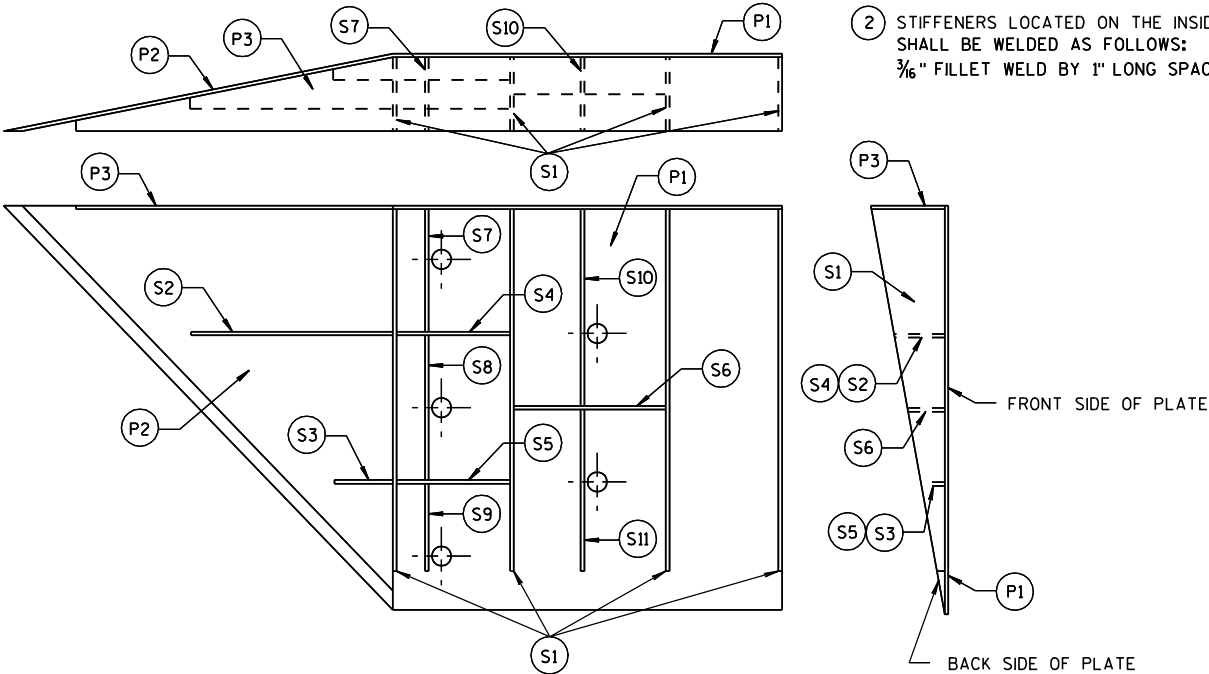


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

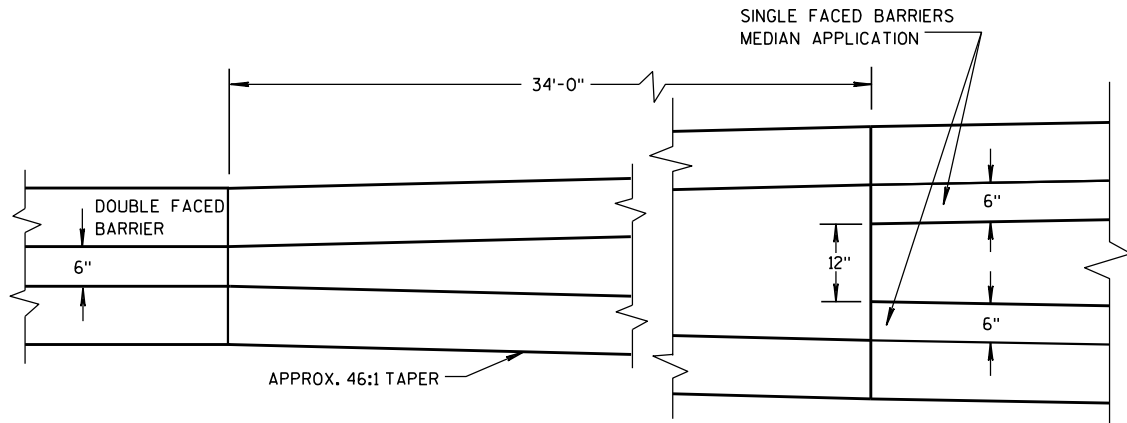
**STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

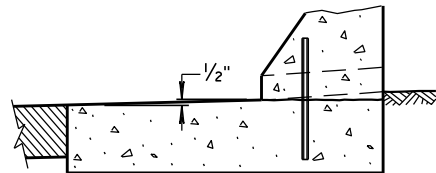
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8/31/2012
DATE

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ROADWAY STANDARDS DEVELOPMENT
ENGINEER

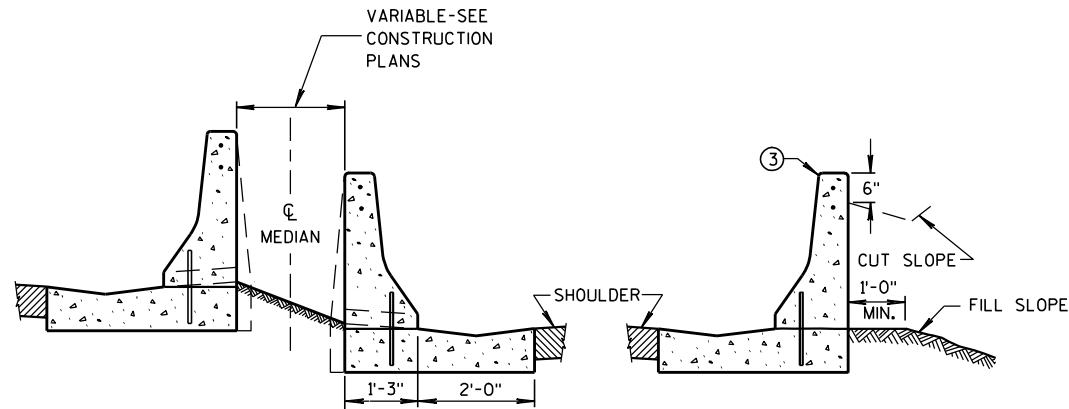
FHWA



PLAN VIEW
TRANSITION DETAILS OF DOUBLE FACED
TO SINGLE FACED CONCRETE MEDIAN BARRIER
(FOOTINGS ARE NOT SHOWN)

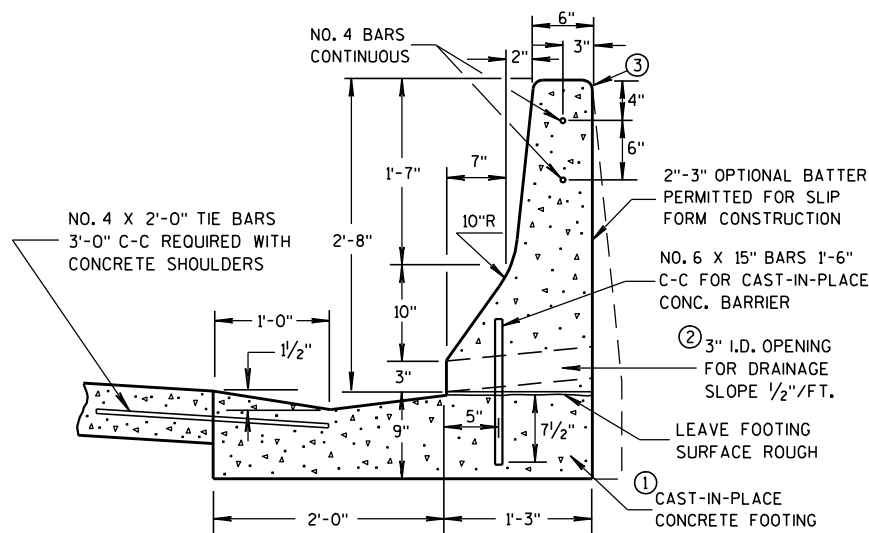


HIGH SIDE
CONCRETE BARRIER DETAIL



MEDIAN SHOULDER

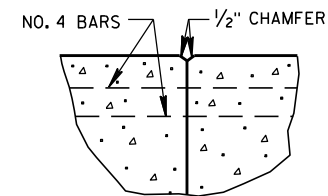
TYPICAL APPLICATIONS



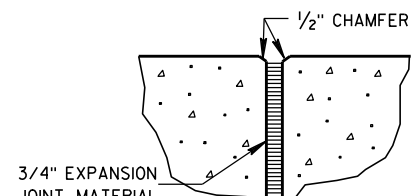
SECTION VIEW

GENERAL NOTES

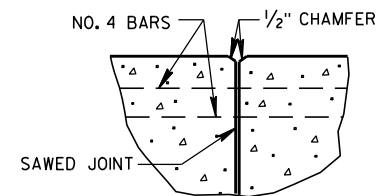
- 1 SPICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.
- 2 ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.
- 3 BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.
- 4 OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.
- 5 3/4-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).
- 6 NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.
- 7 EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.
- 8 SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.



CONSTRUCTION JOINT



EXPANSION JOINT

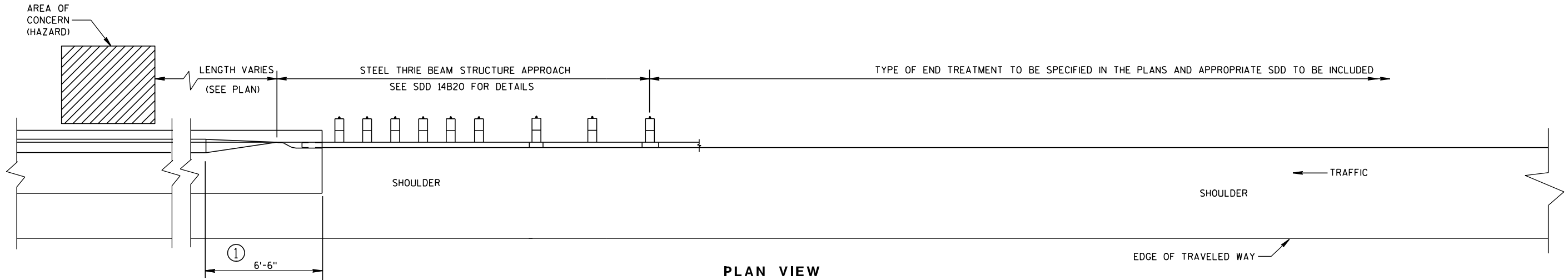


CONTRACTION JOINT

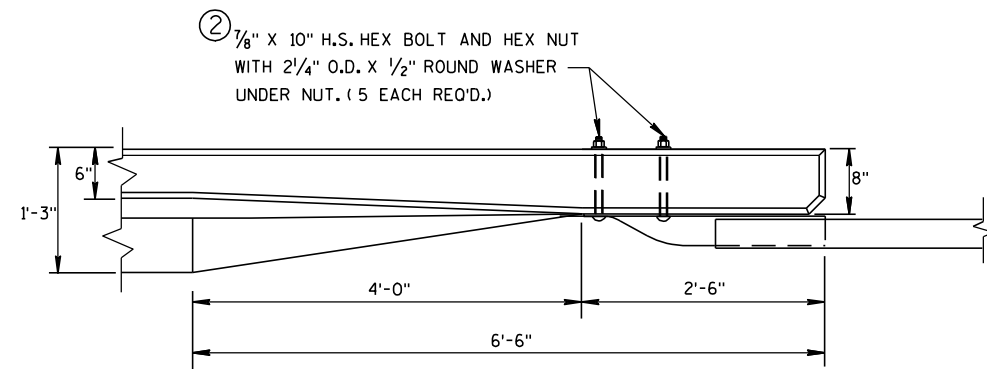
JOINT DETAILS

CONCRETE BARRIER
SINGLE-FACED
(WITH ANCHORAGE)

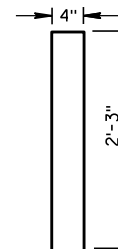
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
TRANSITION TO STEEL PLATE BEAM GUARD
AND END TERMINAL



PLAN VIEW

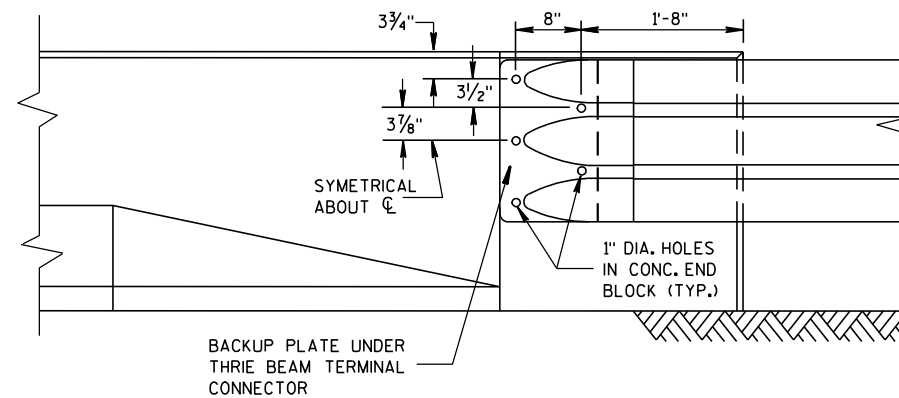


BENT BAR DETAIL

GENERAL NOTES

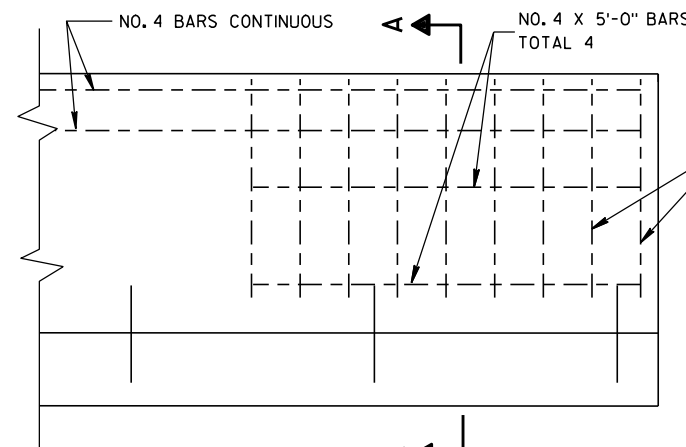
- ① A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
- ② HIGH STRENGTH BOLTS SHALL MEET REQUIREMENTS OF ASTM A325.
- ③ REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
- ④ PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



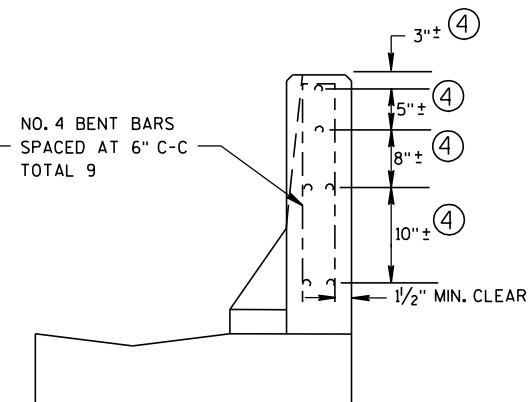
FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM



FRONT VIEW

③ REINFORCEMENT AT BARRIER END



SECTION A-A

CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/12/10
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT
ENGINEER

6

S.D.D. 14 B 24-7a

5 WOOD OFFSET BLOCK

2'-0" TO 3'-0" VAR.

7/8"

7"

1'-9 5/8"

WOOD BREAKAWAY CRT POST

4

HINGE POINT

1'-4"

SLOPE 10:1 OR FLATTER

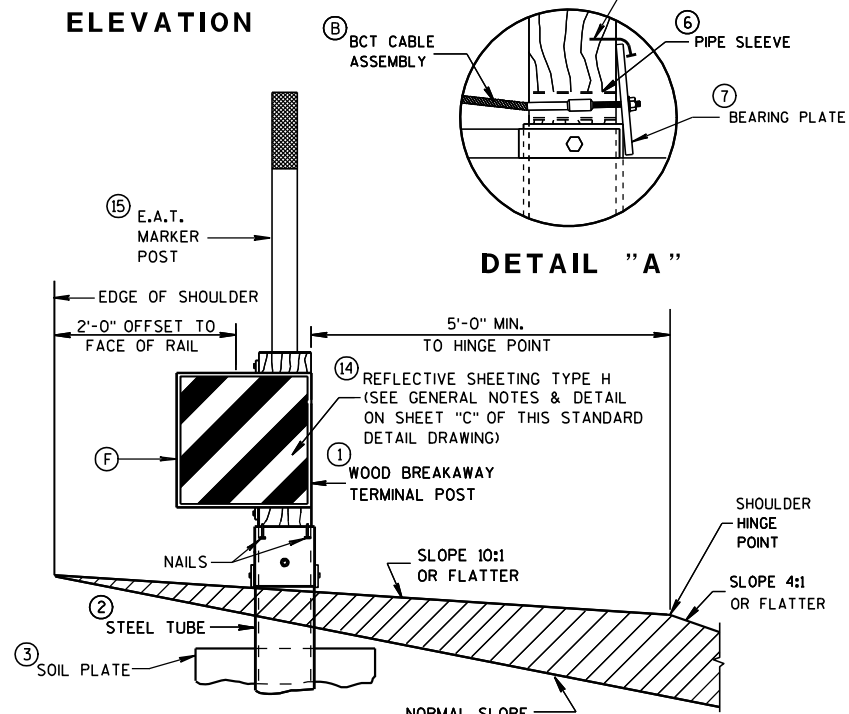
3 1/2" HOLES

TRANSITION TO 4:1 TAPER LINE

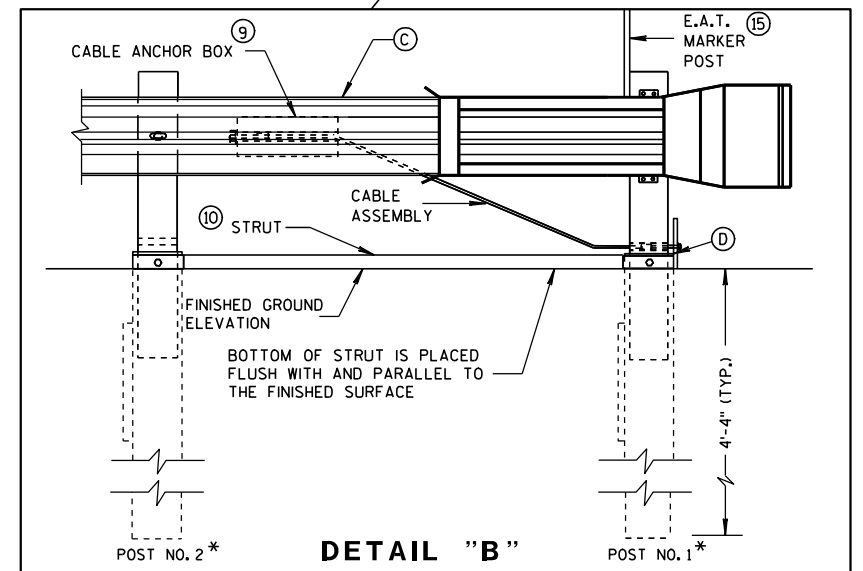
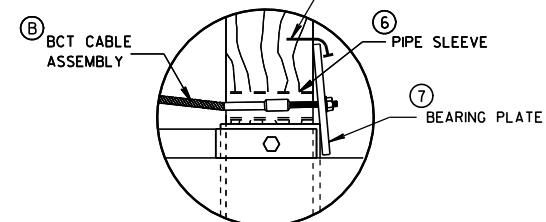
5/8" ϕ X 1'-6" AND RECESS NUT WITH ROUND WASHER UNDER NUT

(E)

SECTION B-B
TYPICAL AT POST NO. 2*

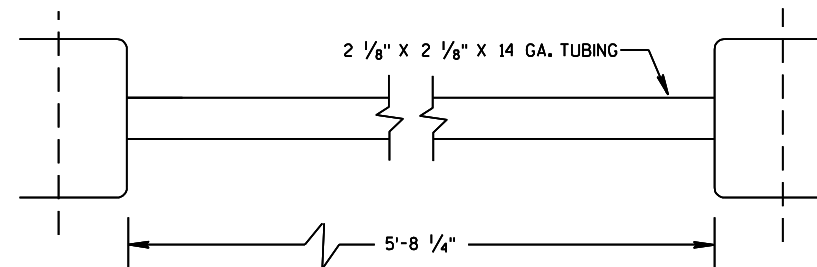


DETAIL "A"

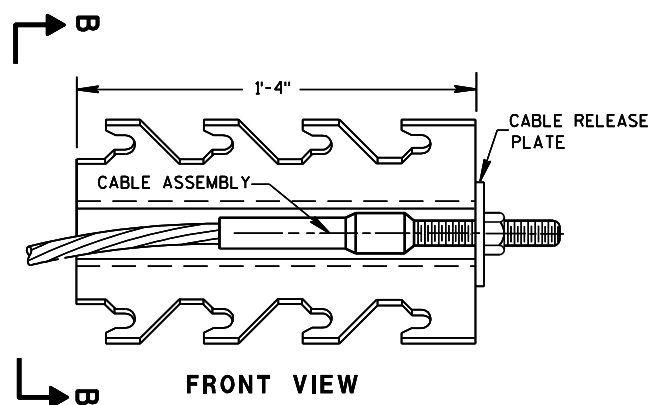


DETAIL "B"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



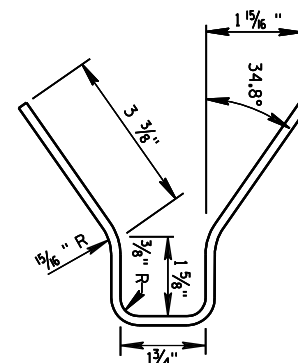
⑩ STRUT DETAIL (SKT-350)



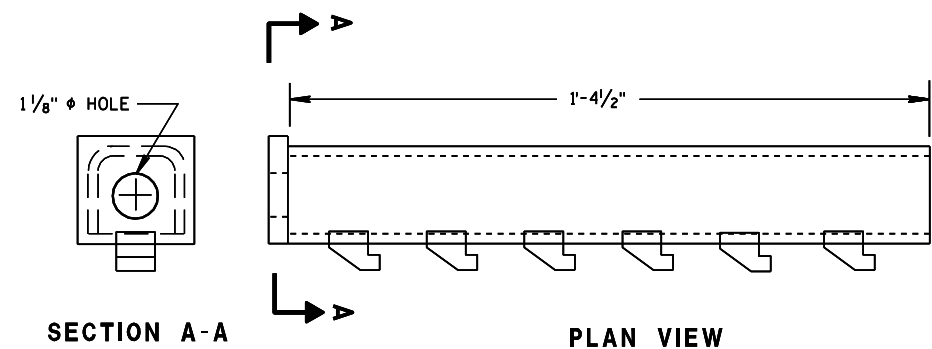
FRONT VIEW

⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



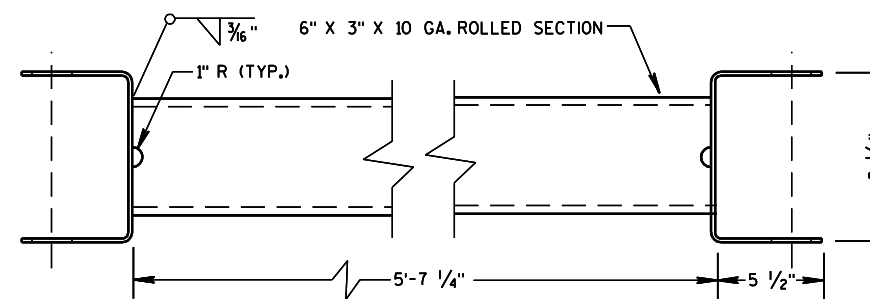
SECTION B-B



SECTION A-A

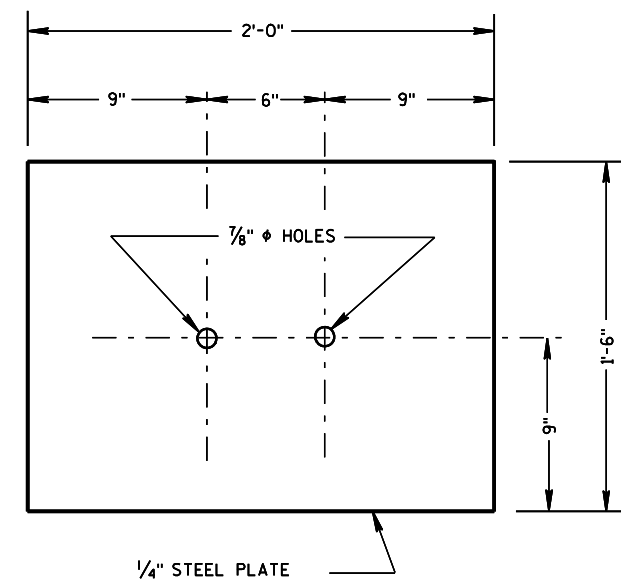
PLAN VIEW

⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



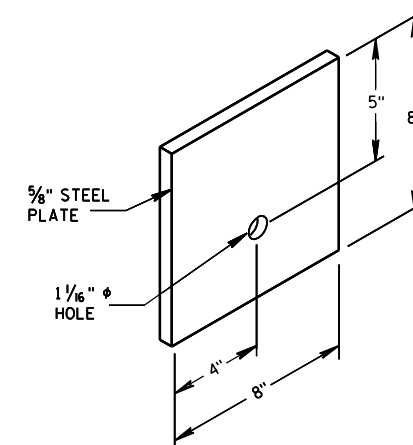
⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



1/4" STEEL PLATE

③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

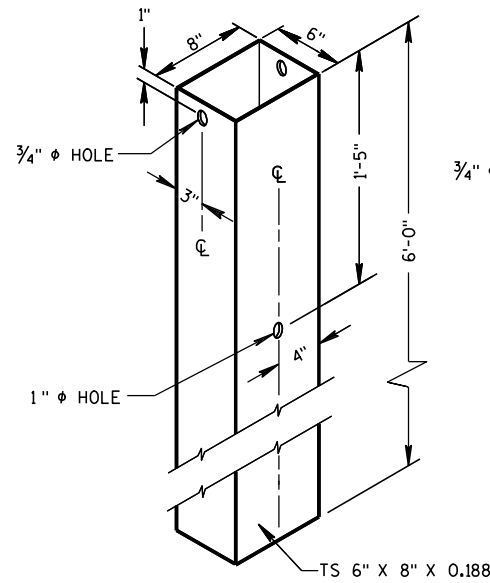


⑦ STEEL BEARING PLATE

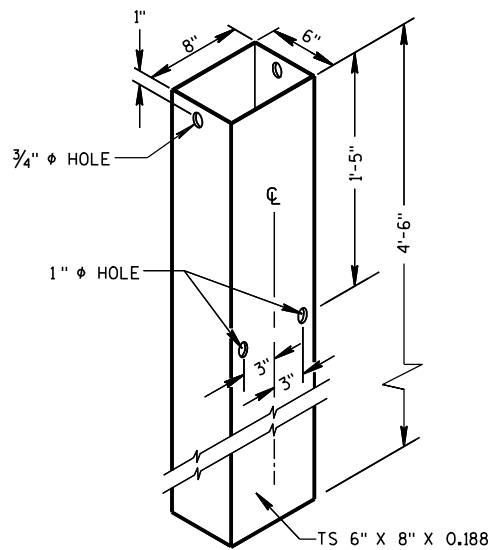
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

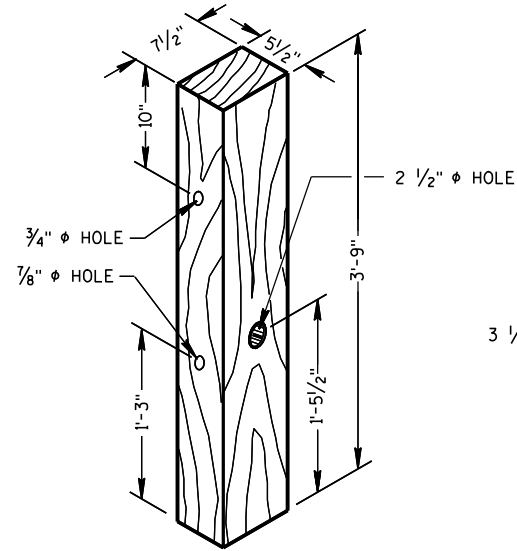
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



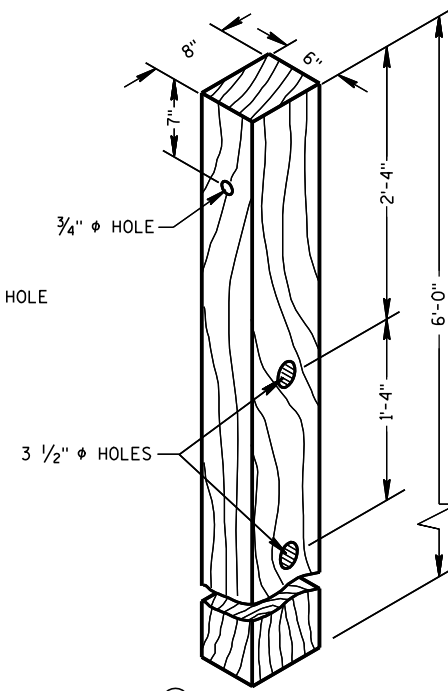
② 72" STEEL TUBE
(POSTS NO. 1-4)



② 54" STEEL TUBE
(POSTS NO. 1-4)

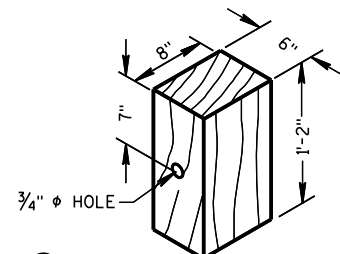


① TERMINAL POST
(POSTS NO. 1-4)



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

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING

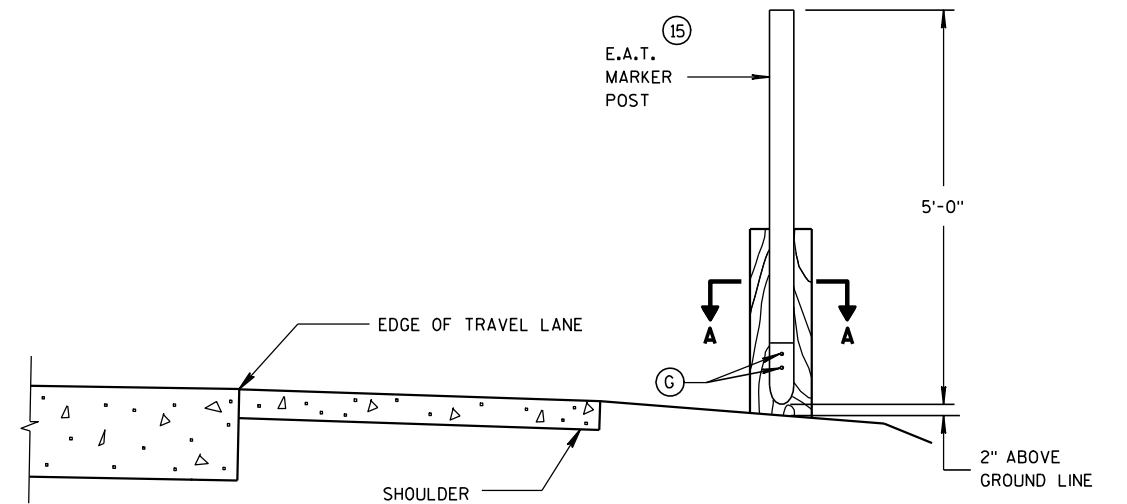
E.A.T. MARKER
POST (YELLOW)

⑮

FRONT VIEW

SIDE VIEW

⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)

POST NO. 1
OF E.A.T.

⑮ E.A.T. MARKER POST
(FLAT OR SEMI-CIRCLE
X SECTION ACCEPTABLE)

SECTION A-A

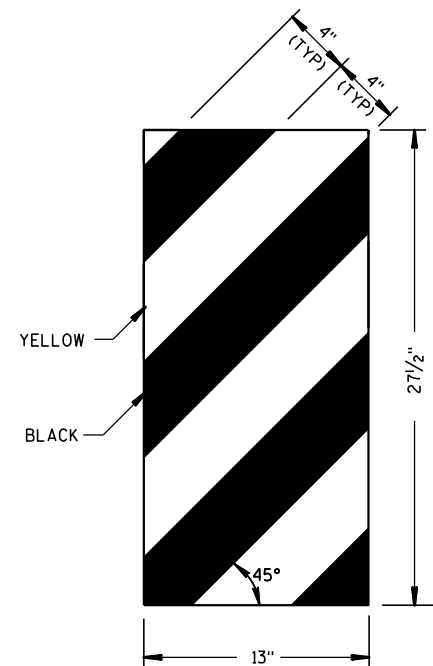
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

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.

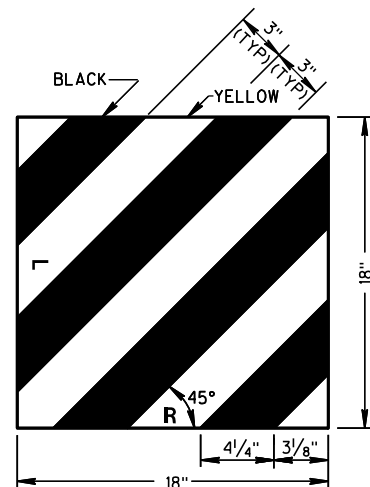
SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

⑮ 1/2" DIA. X 3" LAG BOLT WITH WASHER.



ET-2000 PLUS ONLY

⑭ REFLECTIVE SHEETING DETAILS



ET-2000 AND SKT-350

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

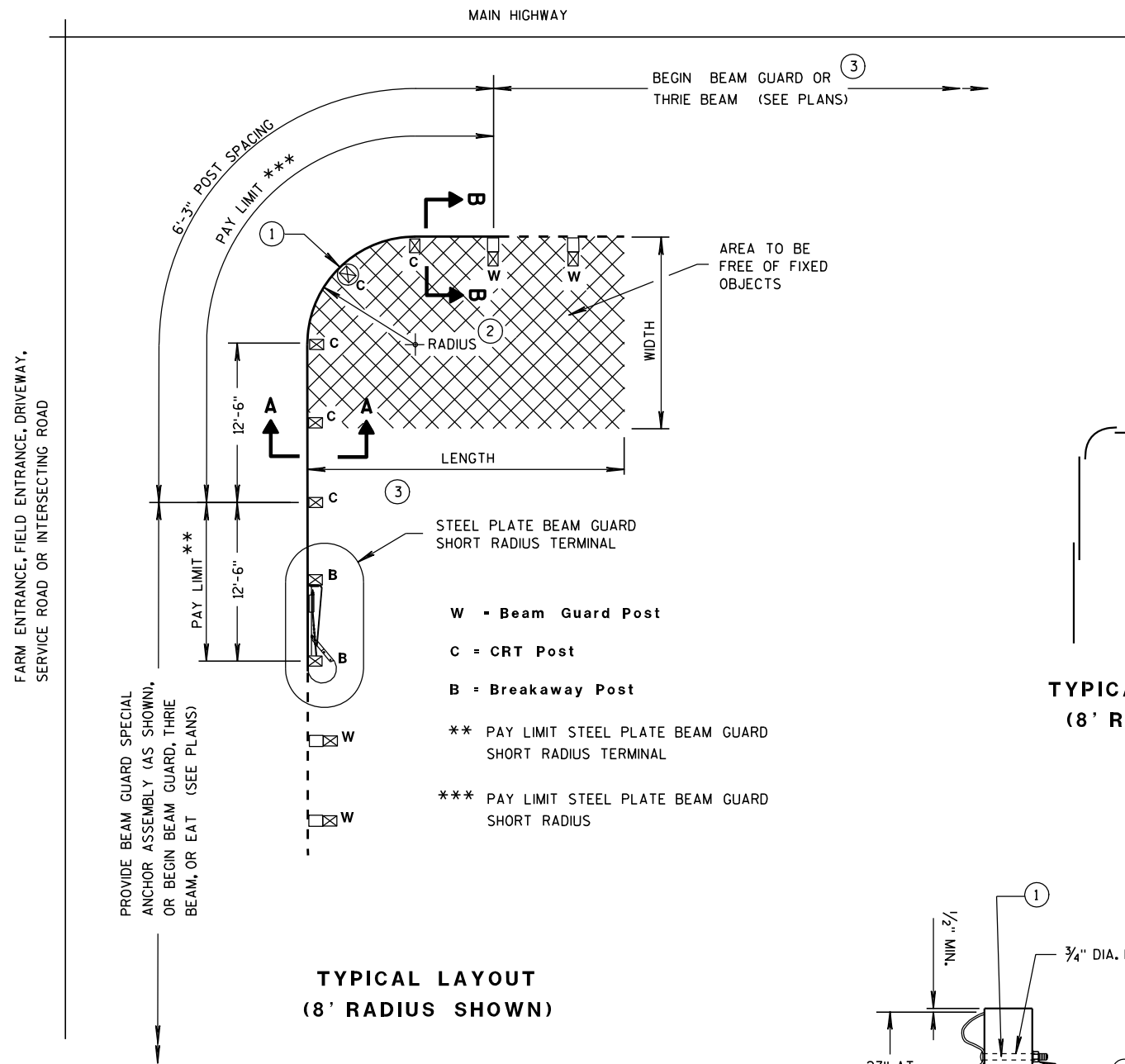
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

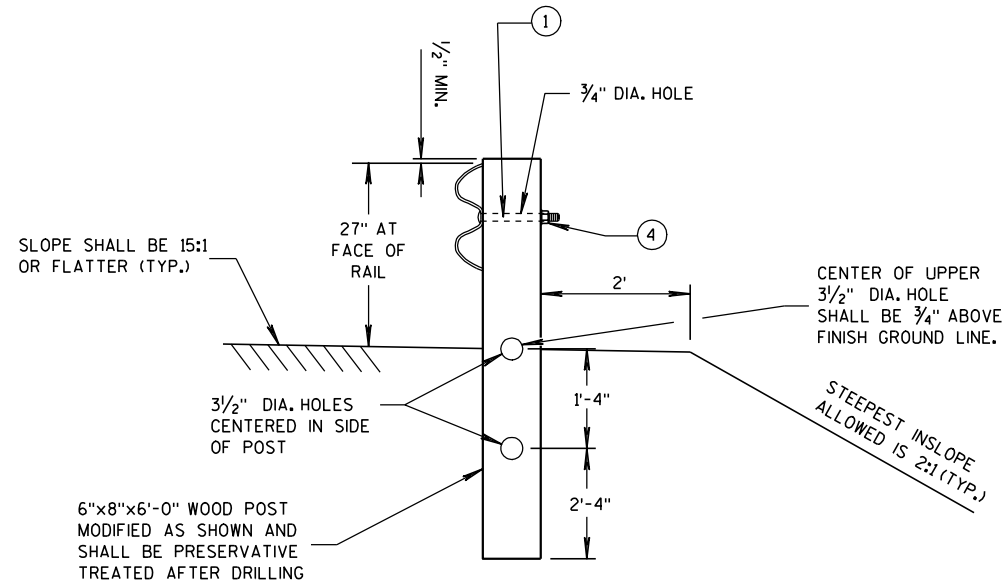
4-12-10
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TYPICAL LAYOUT
(8' RADIUS SHOWN)



SECTION A-A
(CRT POST)

TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2, UNLESS NOTED OTHERWISE.

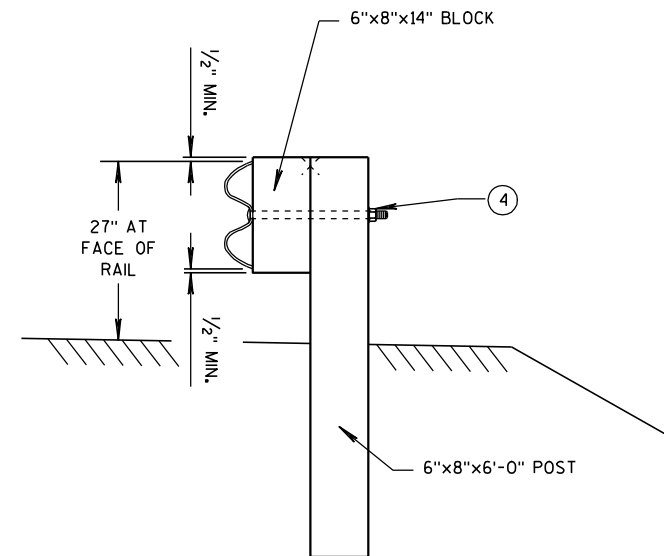
SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

- 1 ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.
- 2 RADIUS FROM 8' - 36'. SEE PLAN.
- 3 HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.
- 4 5/8" Ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

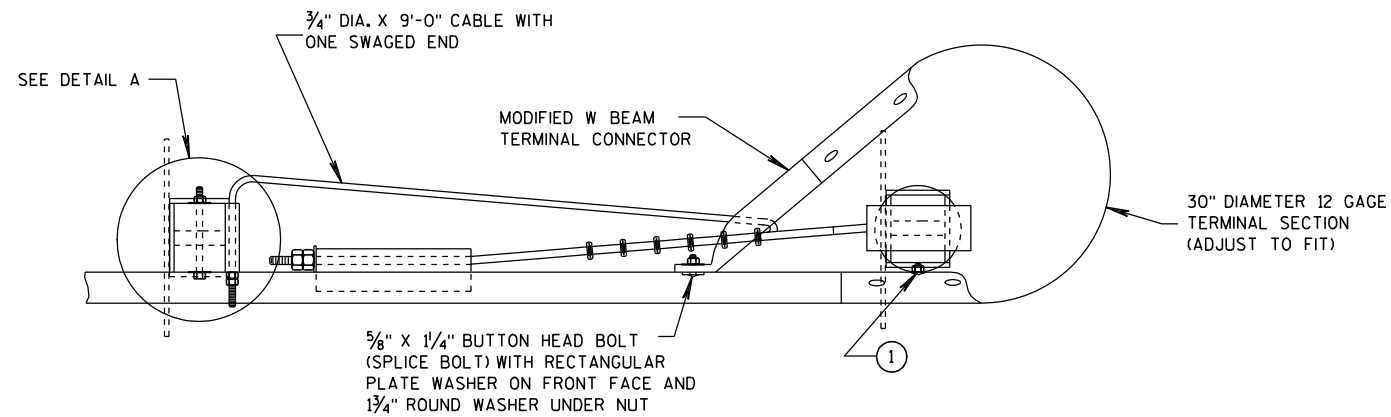
* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



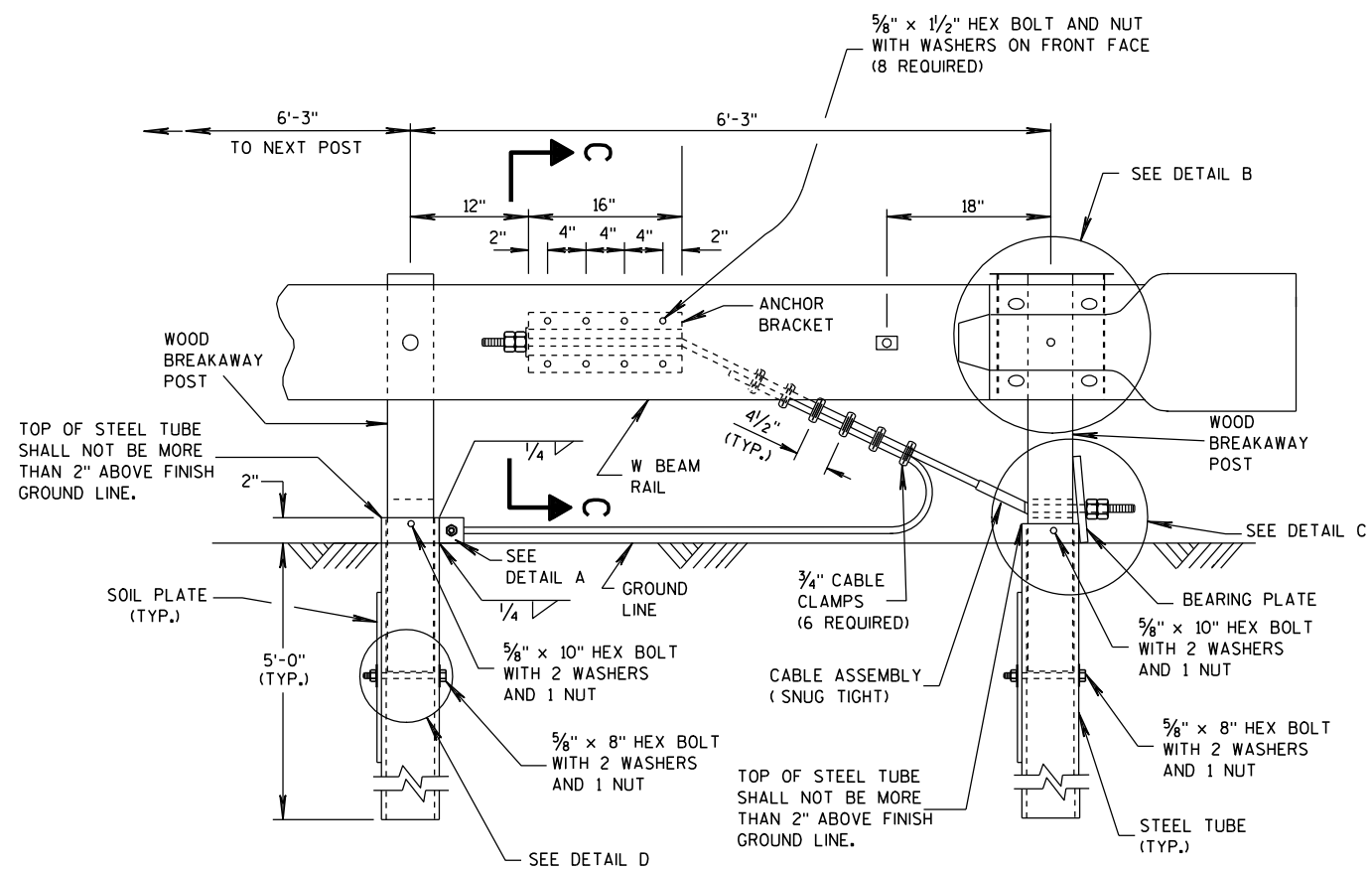
SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

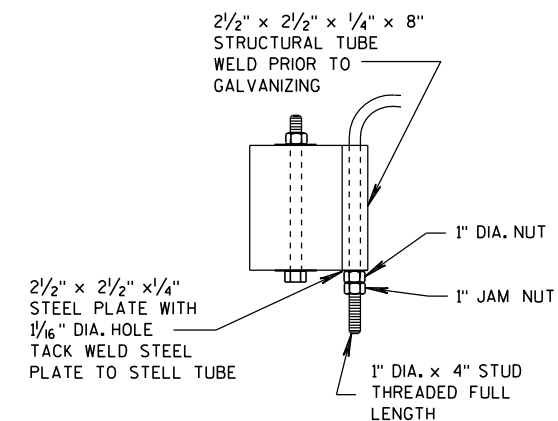


ELEVATION VIEW

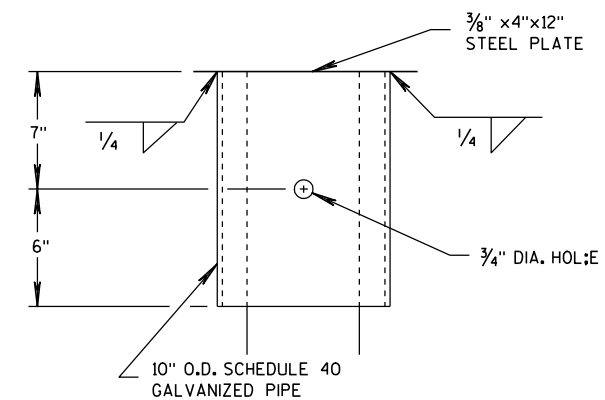
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

- ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A 5/8" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.
- INSTALL GALVANIZED 3/4" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED FLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A

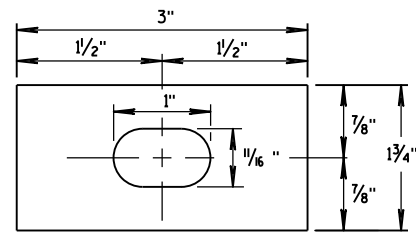


DETAIL B

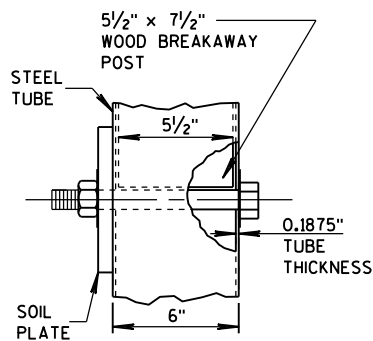
(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

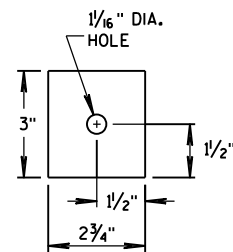
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



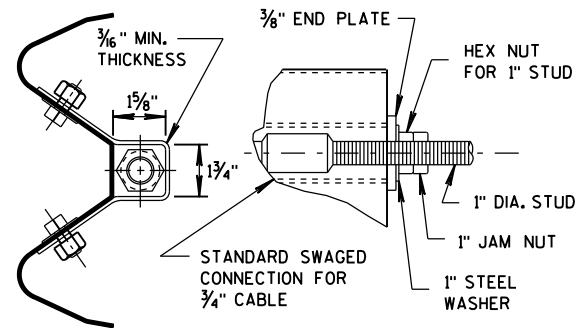
**RECTANGULAR
PLATE WASHER**



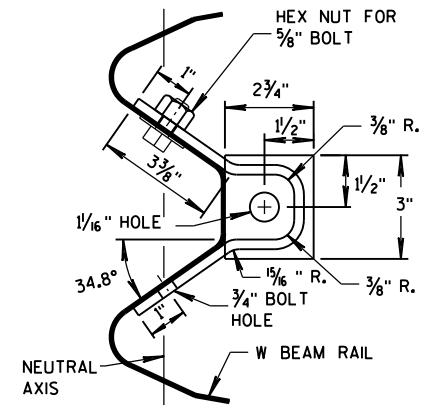
DETAIL D



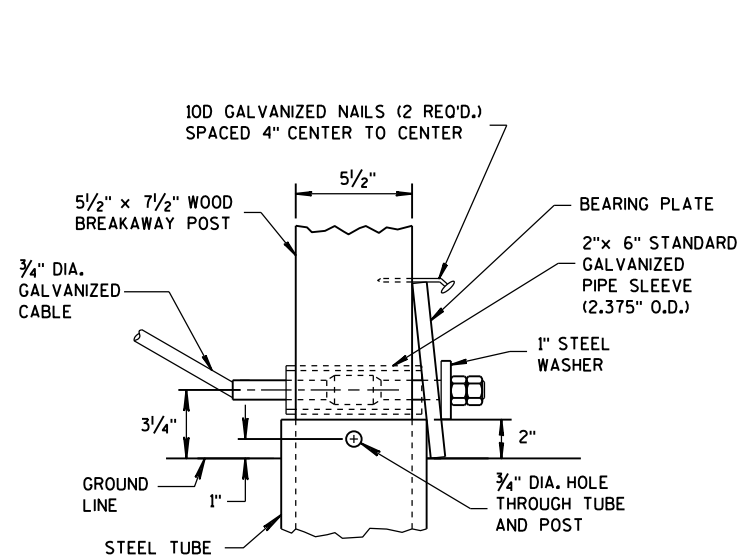
END PLATE



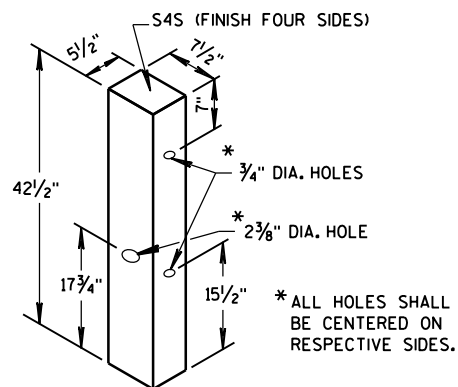
**SECTION C-C
(END PLATE REMOVED)**



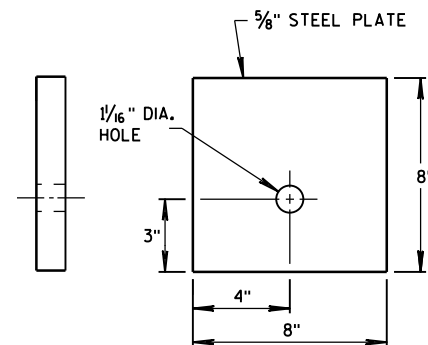
ANCHOR BRACKET



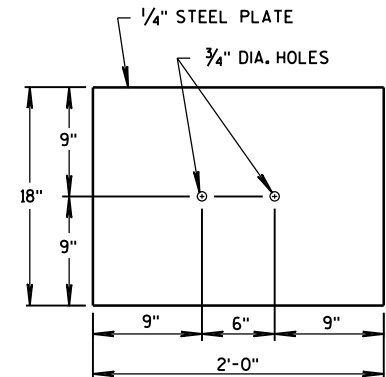
DETAIL C



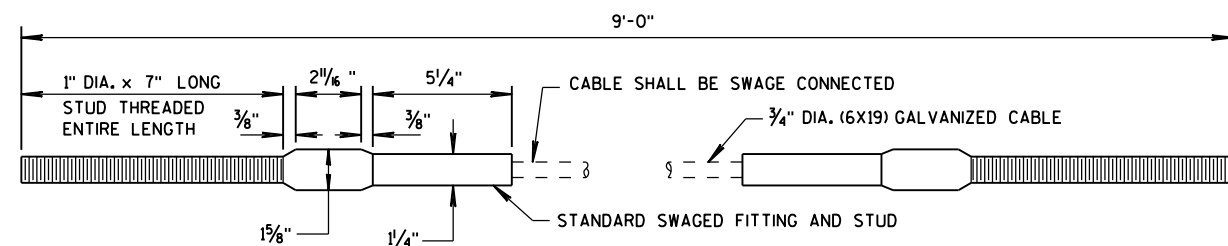
WOOD BREAKAWAY POST



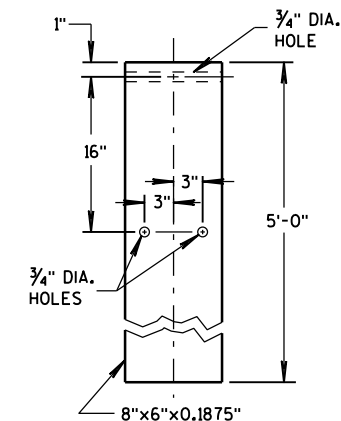
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

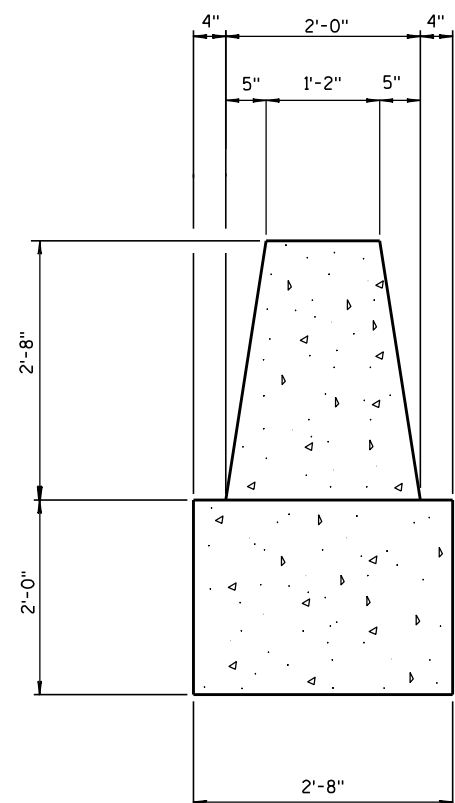
**STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

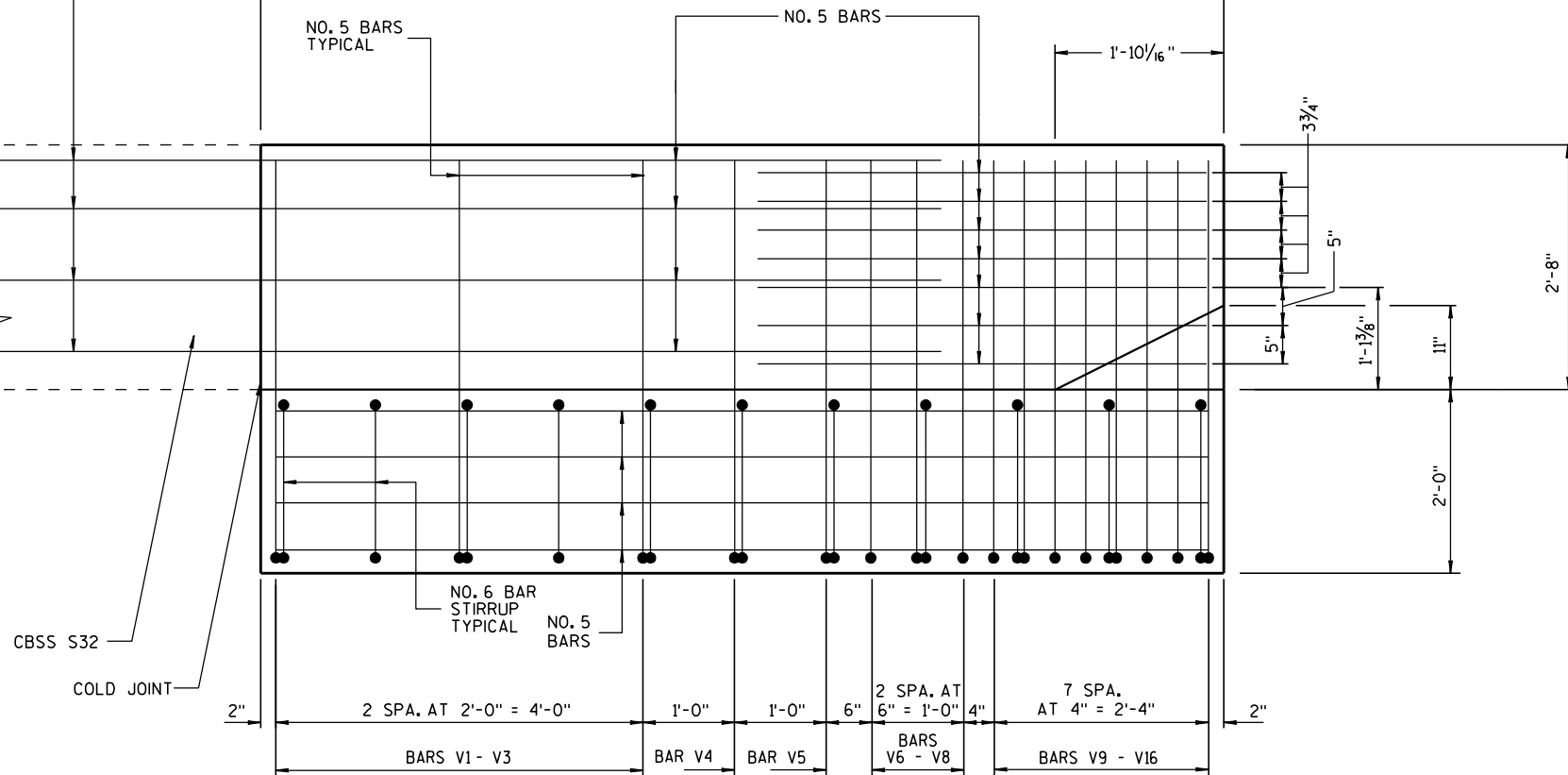
APPROVED
12/18/08
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

SECTION A-A

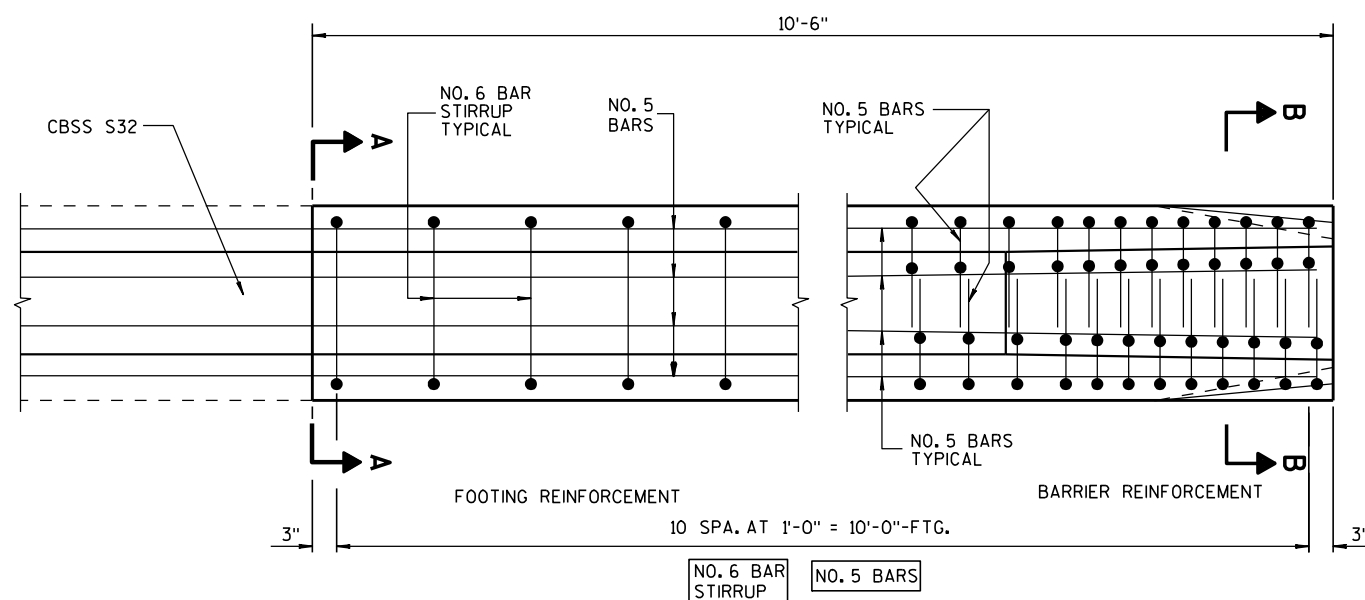


EVENLY SPACE HI BARS.
NO. 5 BARS TO EXTEND
3' BEYOND END OF
TRANSITION
TIE NO. 5 BARS TO
HORIZONTAL BARS IN
SINGLE SLOPE BARRIER TO
TO FORM COLD JOINT

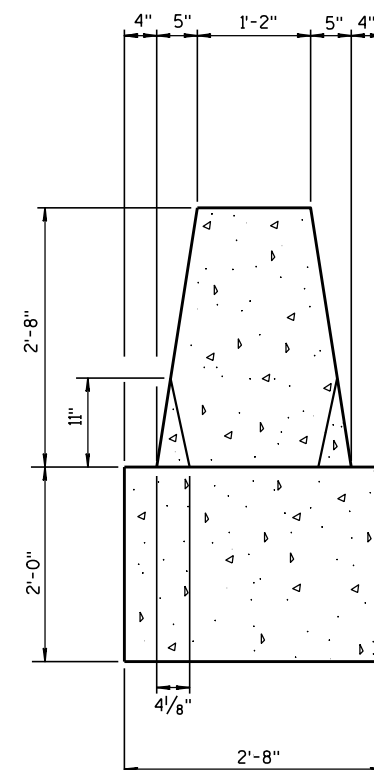


SEE SECTIONS ① THRU ⑩

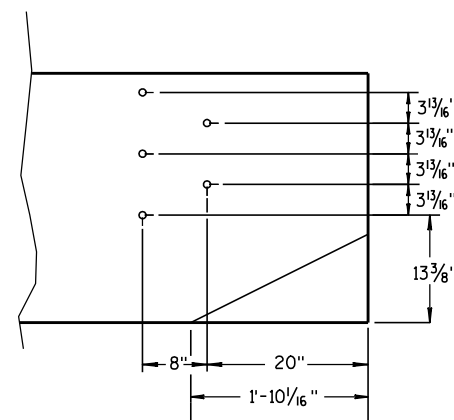
ELEVATION VIEW



PLAN VIEW



SECTION B-B



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE $\frac{3}{4}$ " BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

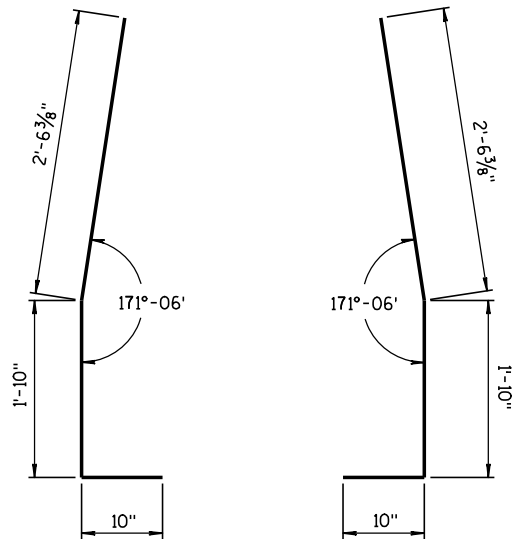
CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE OF BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

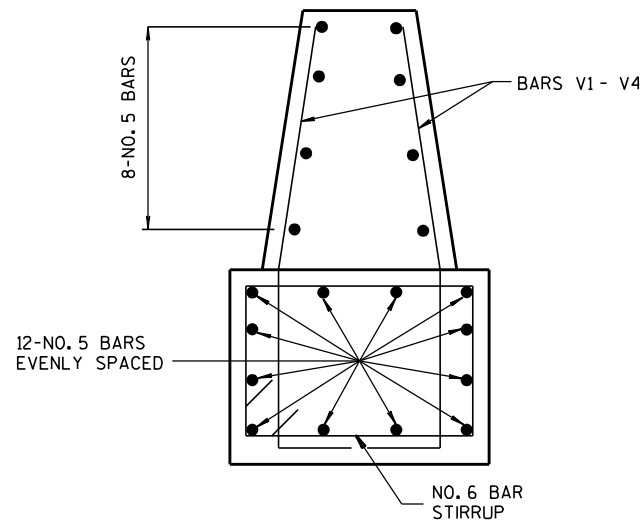
2" CLEAR COVER TYPICAL.

**CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR**

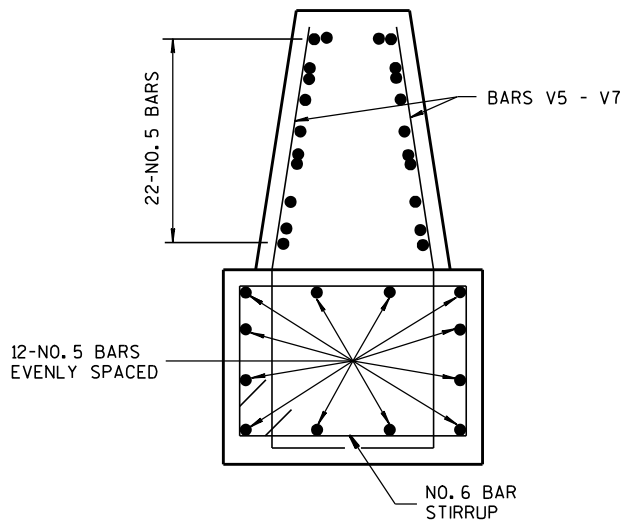
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



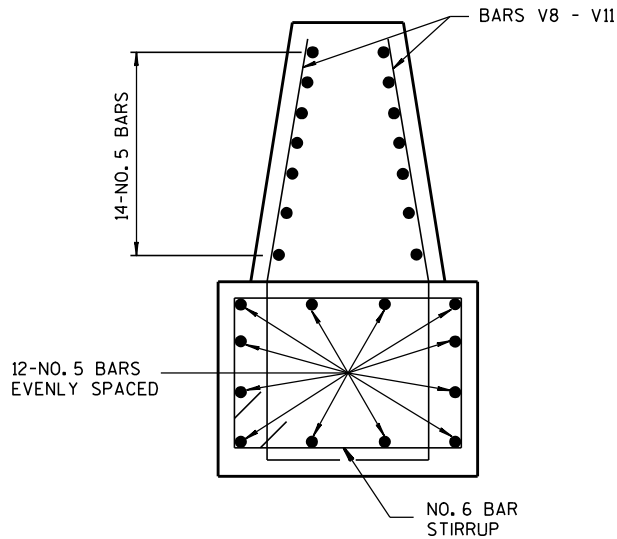
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7

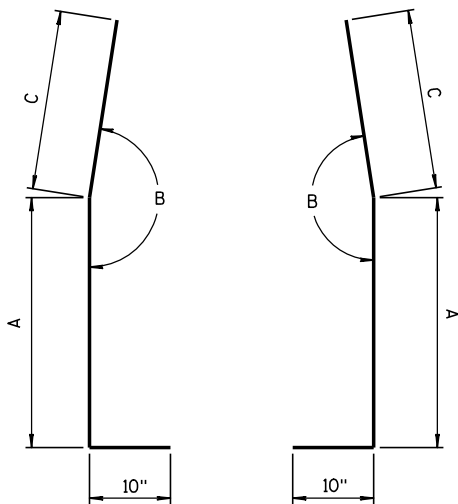


BAR DETAIL
SECTIONS 8 - 11

CONCRETE BARRIER SINGLE SLOPE 32" THREE BEAM ANCHOR
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

BAR CHART
SECTIONS V12 - V13

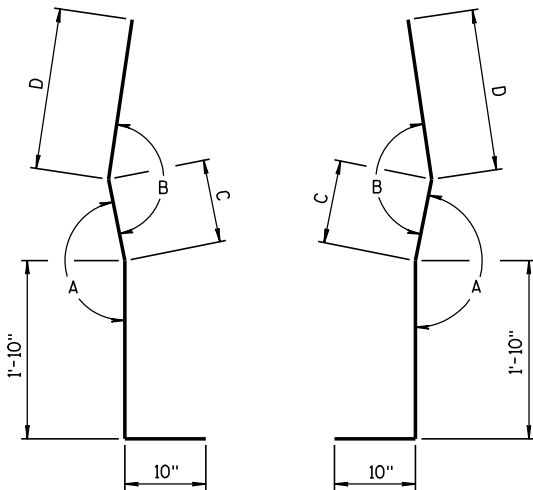
BAR	A	B	C
V12	2'-2"	171°-15'	2'-1 3/4"
V13	2'-7"	171°-05'	1'-9 3/8"



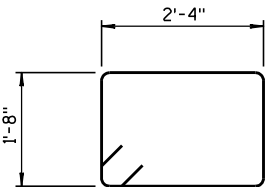
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

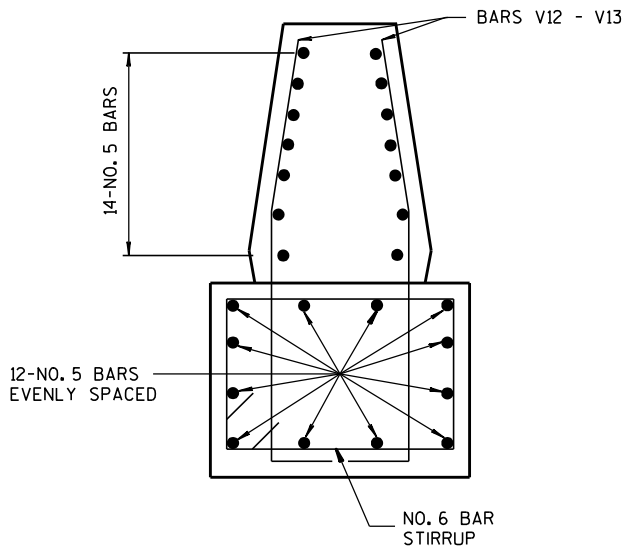
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



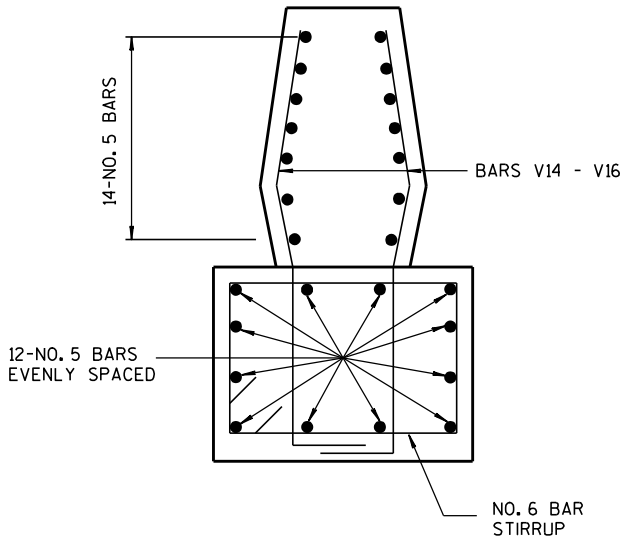
BAR BENDING DETAIL
FOR BARS V14 - V16



STIRRUP BAR
BENDING DETAIL



BAR DETAIL
SECTIONS 12 - 13

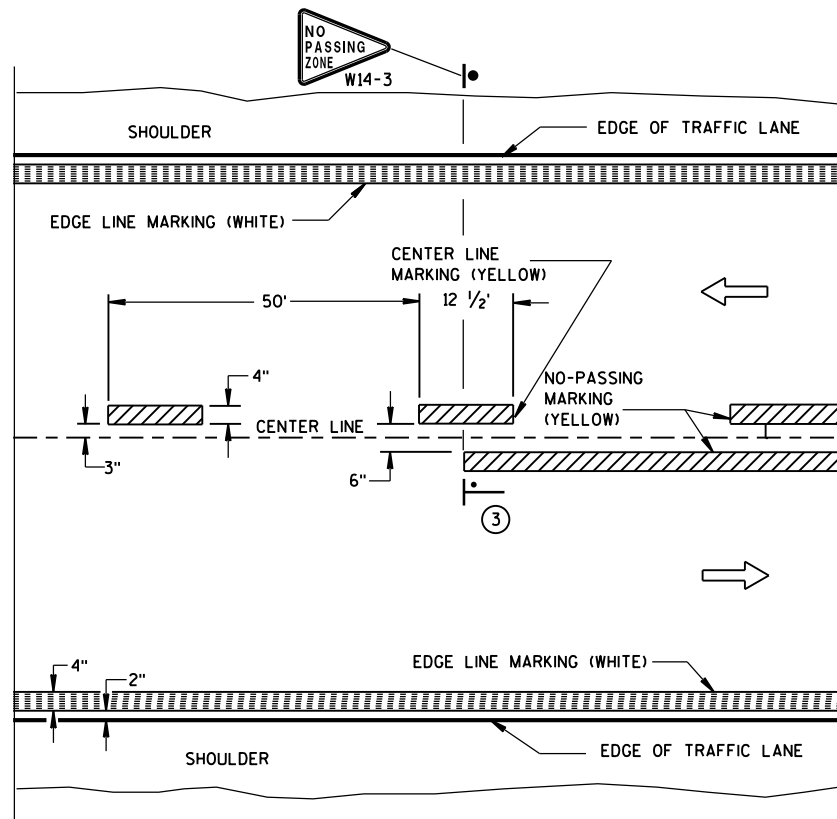


BAR DETAIL
SECTIONS 14 - 16

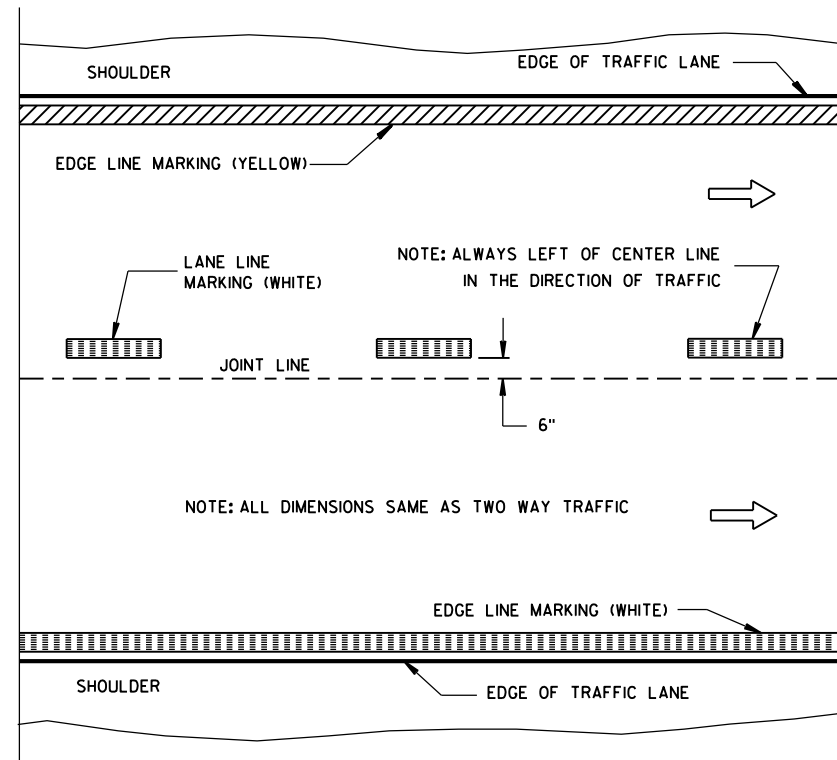
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

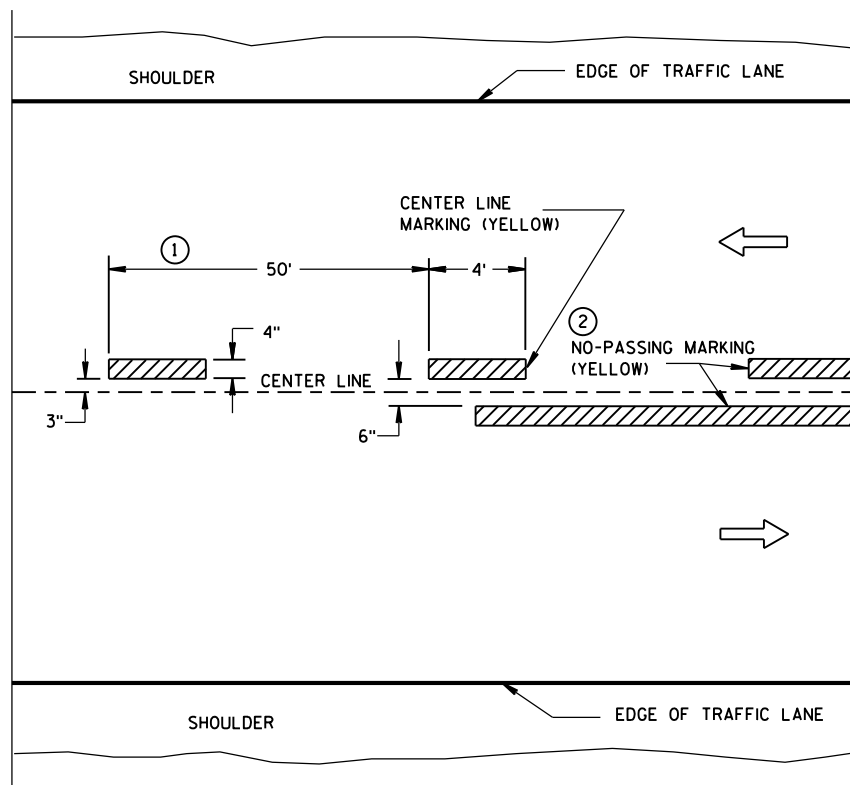


TWO WAY TRAFFIC

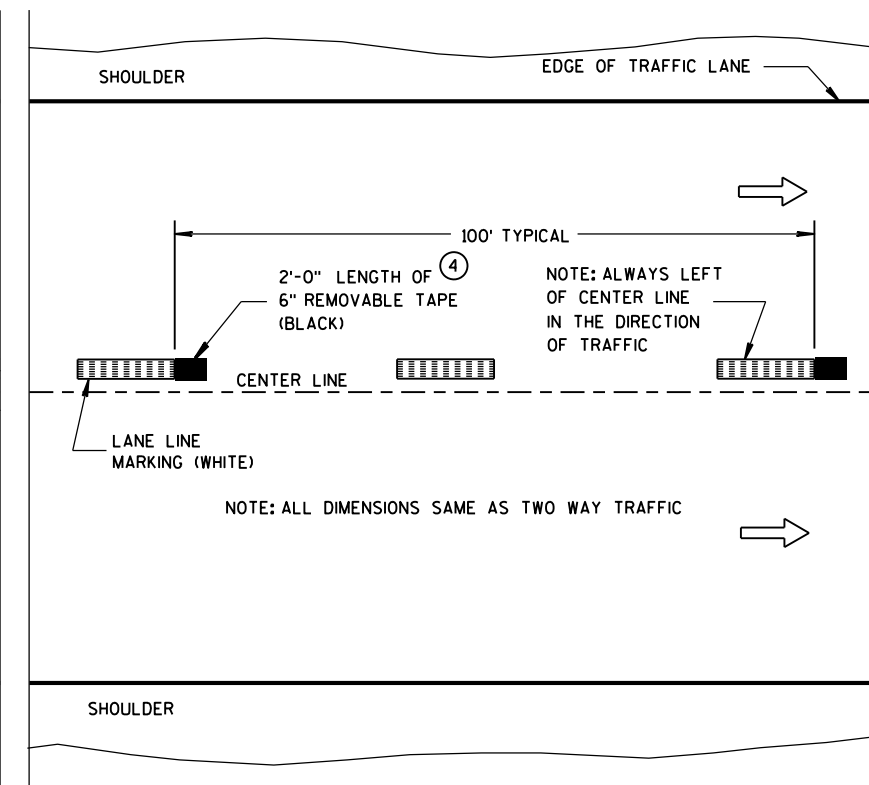


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

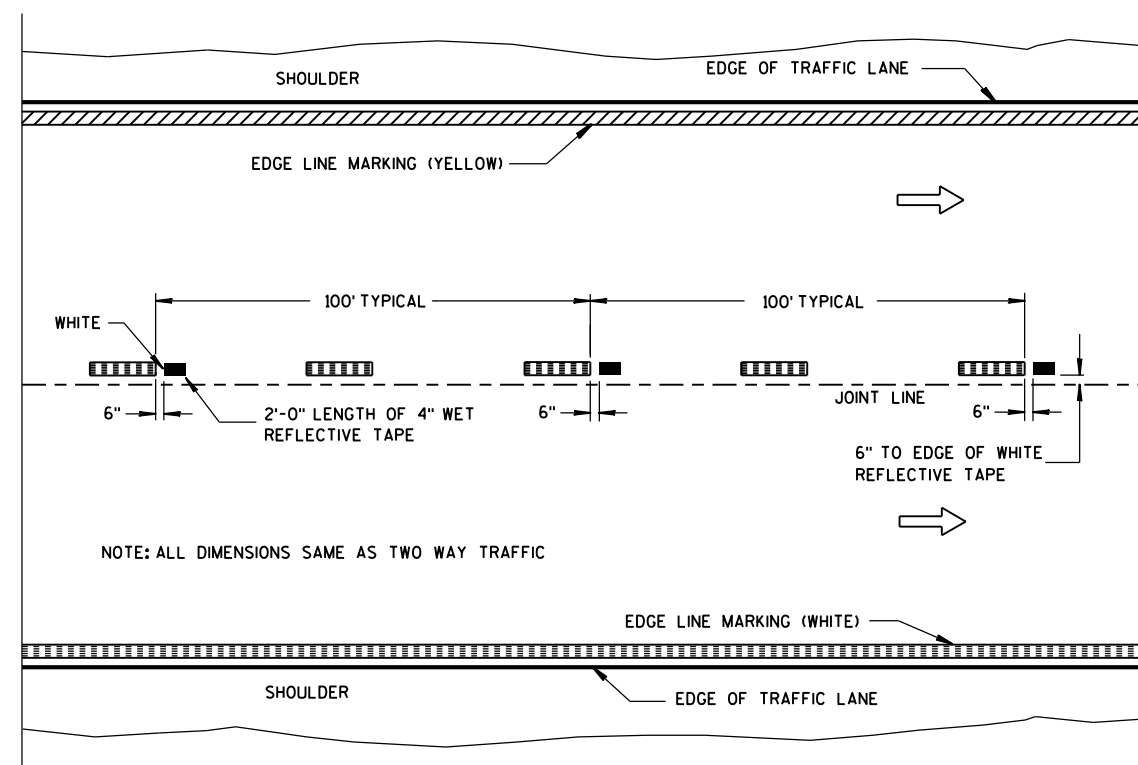
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

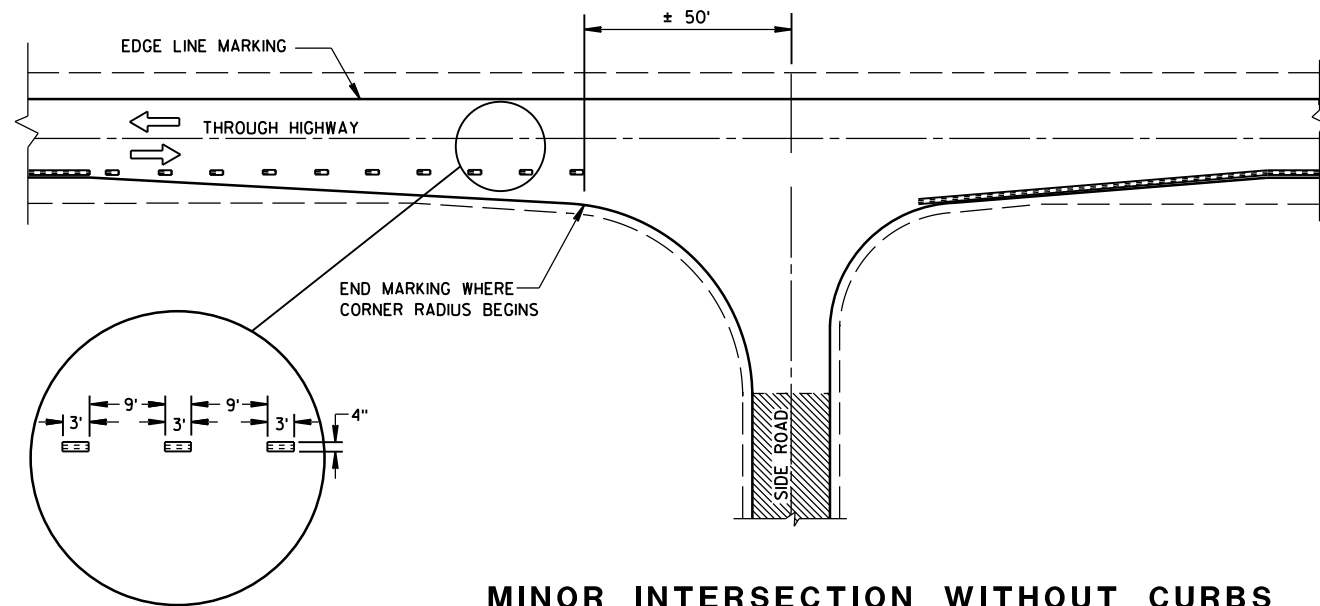
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

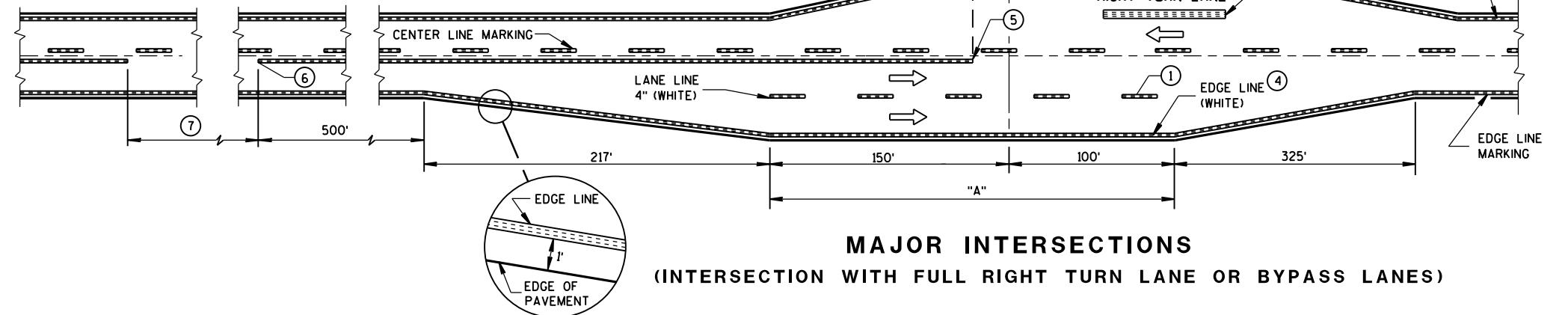
APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



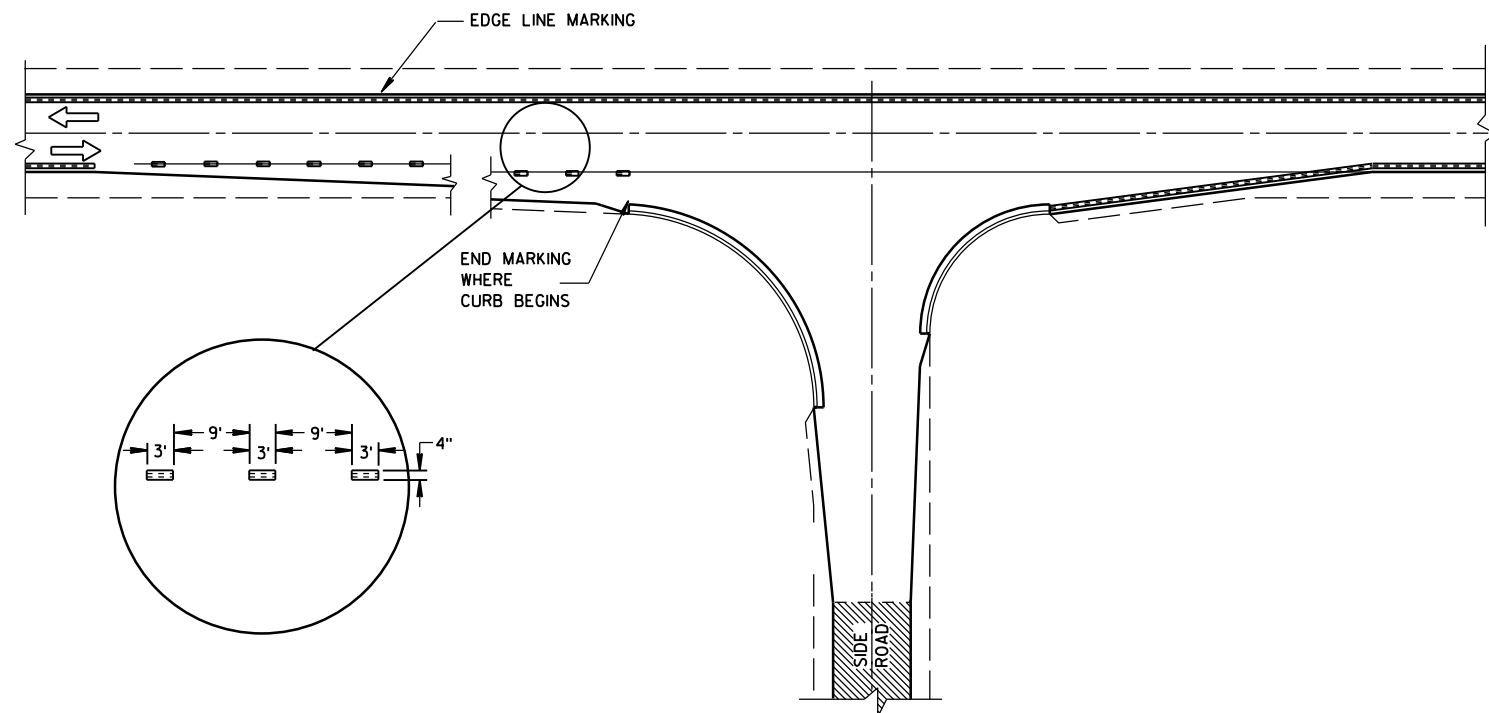
MINOR INTERSECTION WITHOUT CURBS

⑦

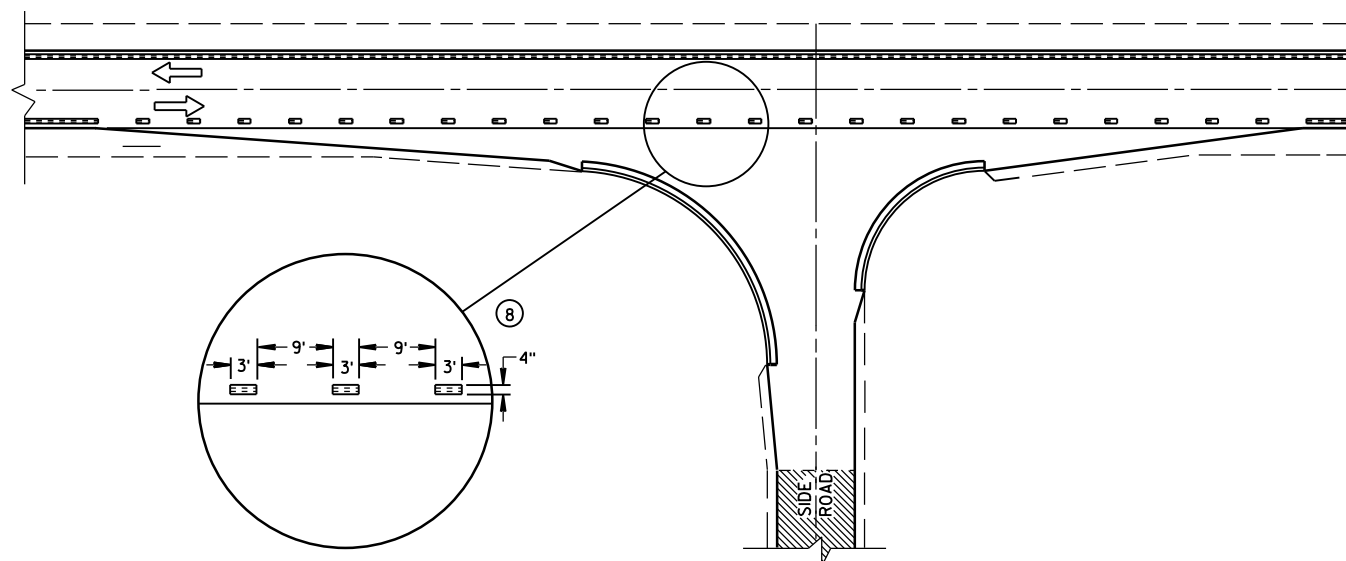
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

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

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

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

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.

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

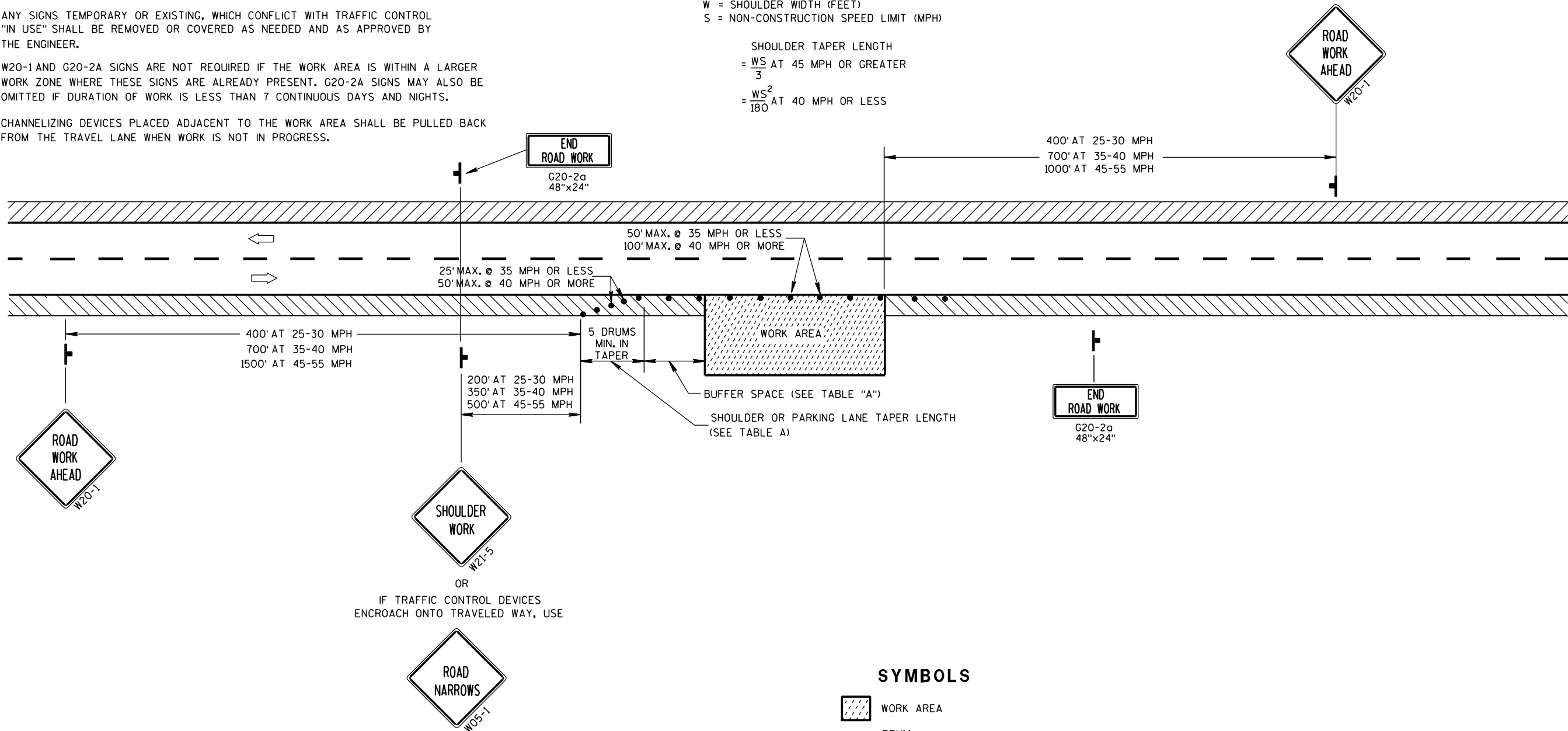
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W		SHOULDER TAPER LENGTH (FEET)				BUFFER SPACE (FEET)
		4	6	8	10	
30	20	30	40	50		85
35	30	45	55	70		120
40	40	55	75	90		170
45	60	90	120	150		220
50	70	100	135	170		280
55	75	110	150	185		335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= $\frac{WS}{3}$ AT 45 MPH OR GREATER
= $\frac{WS^2}{180}$ AT 40 MPH OR LESS



SYMBOLS

- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- FLAGS, 16"x16" MIN., ORANGE
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC FLOW
- 4" X 6" WOOD POST

GENERAL NOTES :

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

NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

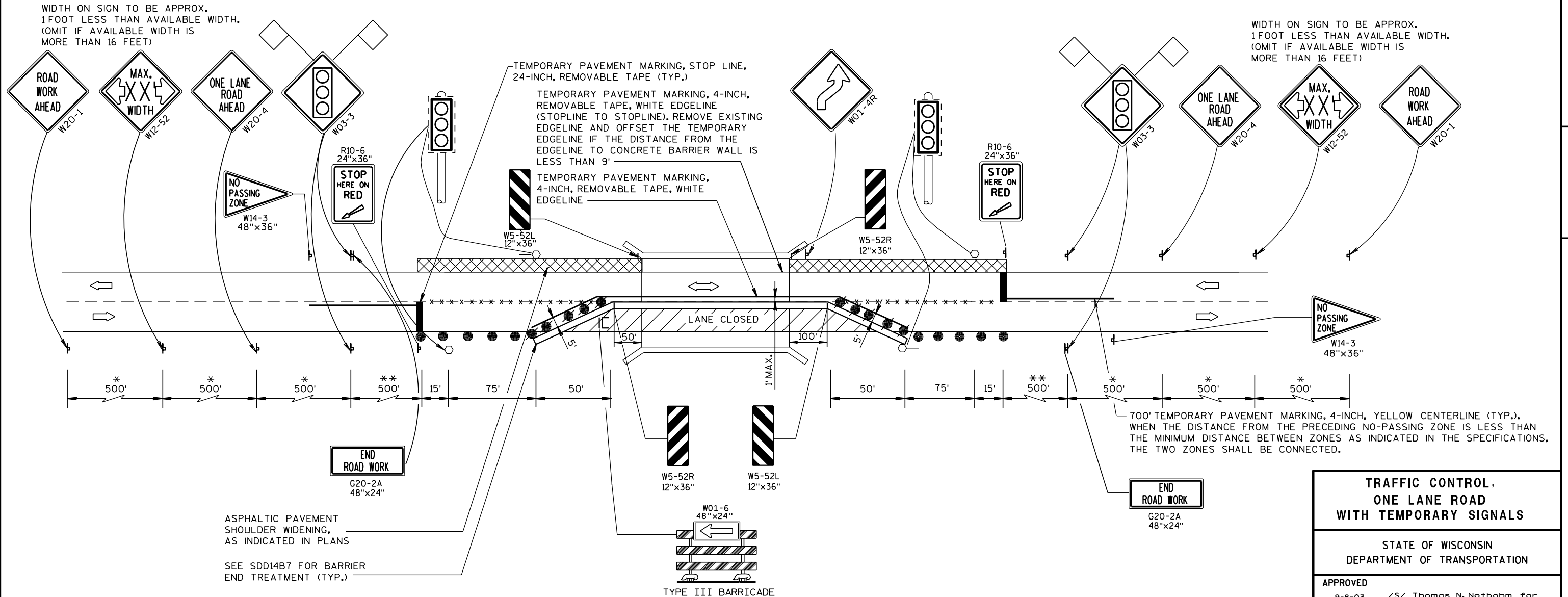
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

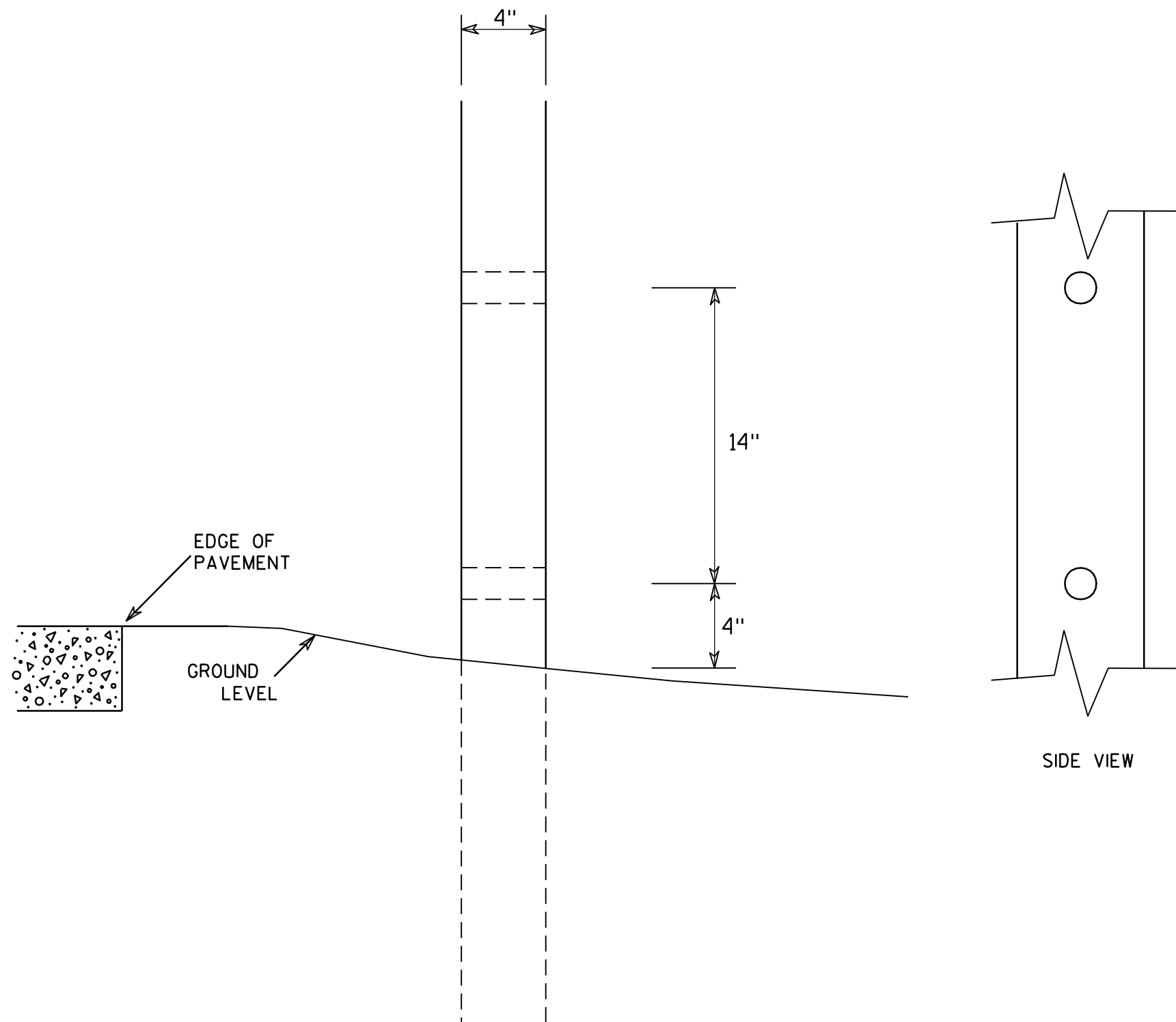
PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500' SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350' TYPICAL SPACING. FOR 25-30 MPH, USE 200' TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

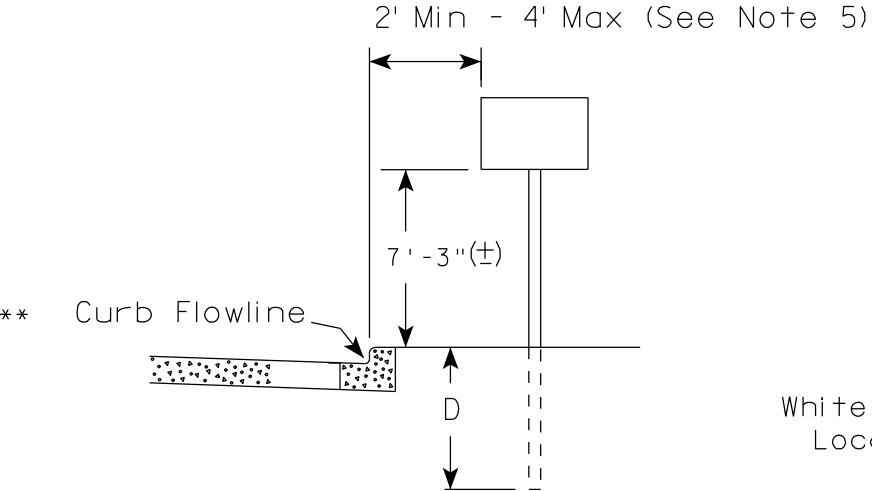
HWY:

COUNTY:

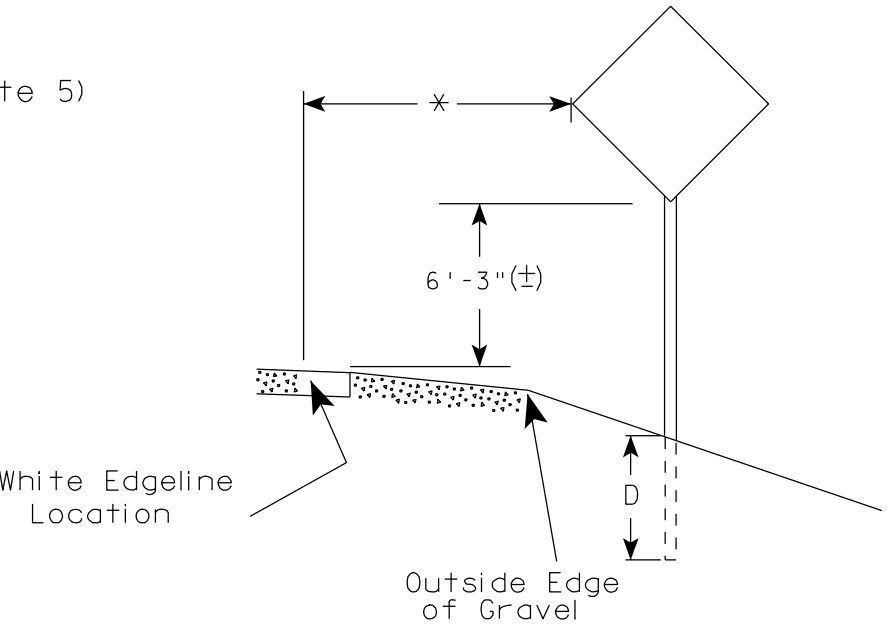
SHEET NO:

E

URBAN AREA

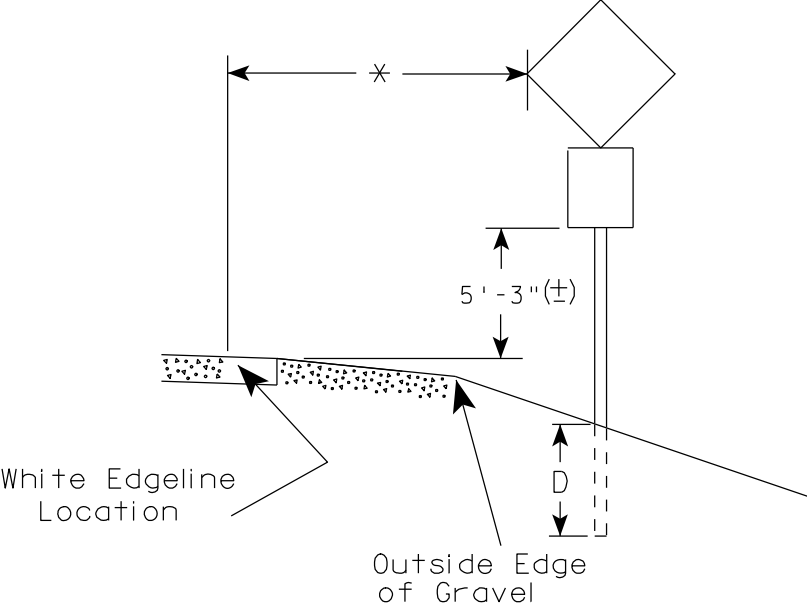
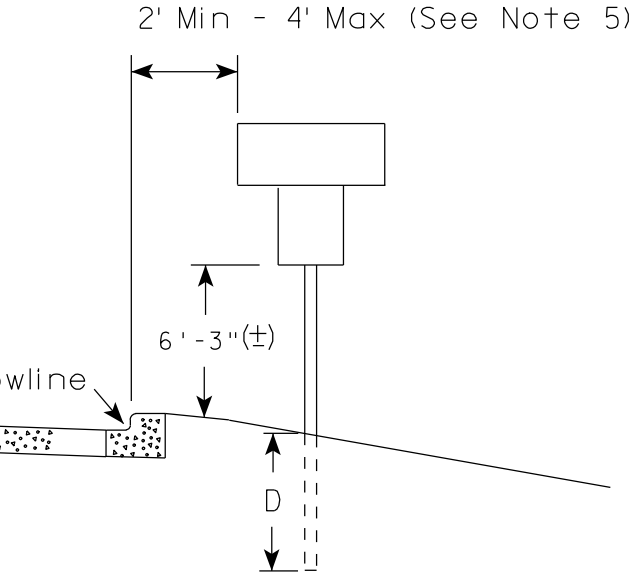


RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).



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 9/21/2011 PLATE NO. A4-3.16

GENERAL NOTES

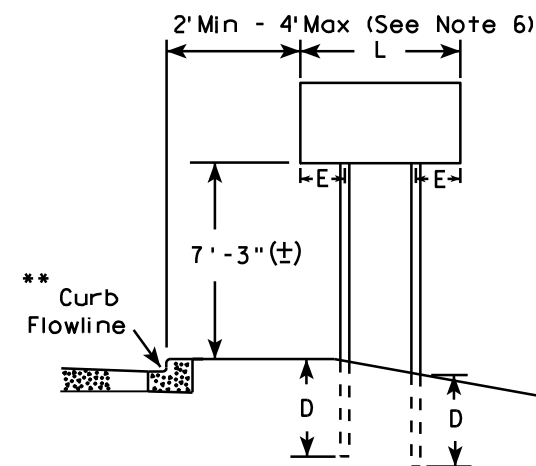
- For multiple post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-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.

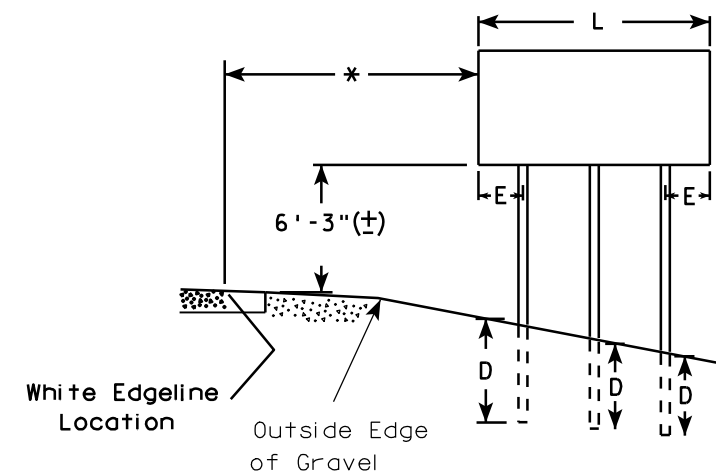
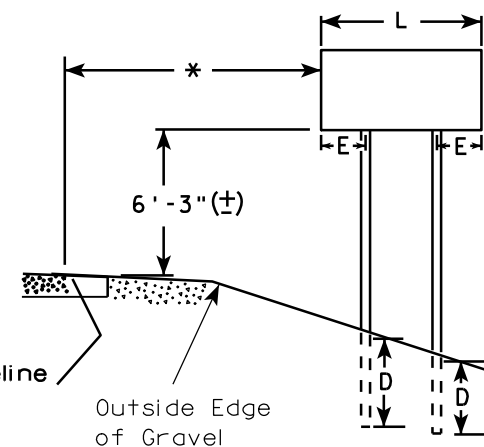
** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

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

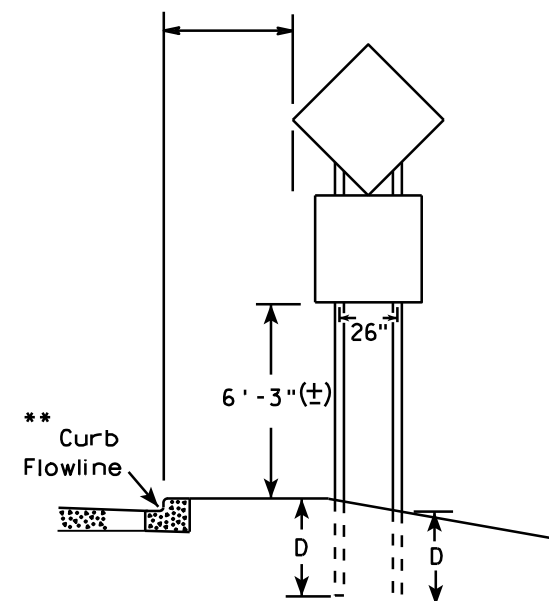
URBAN AREA



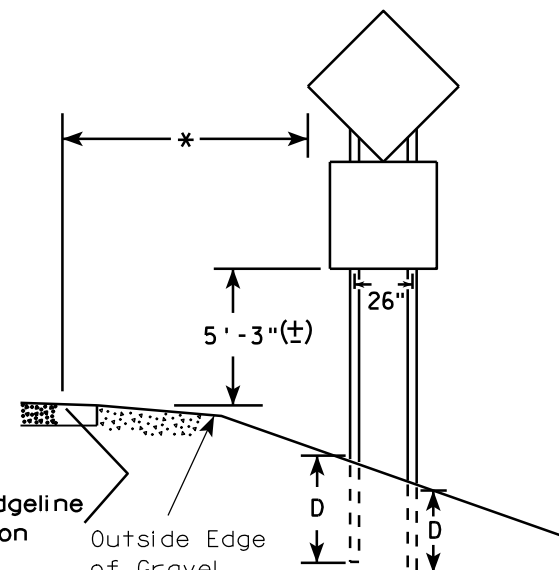
RURAL AREA (See Note 3)



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 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)

L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)

L	E
168" and greater	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 9/21/2011 PLATE NO. A4-4.11

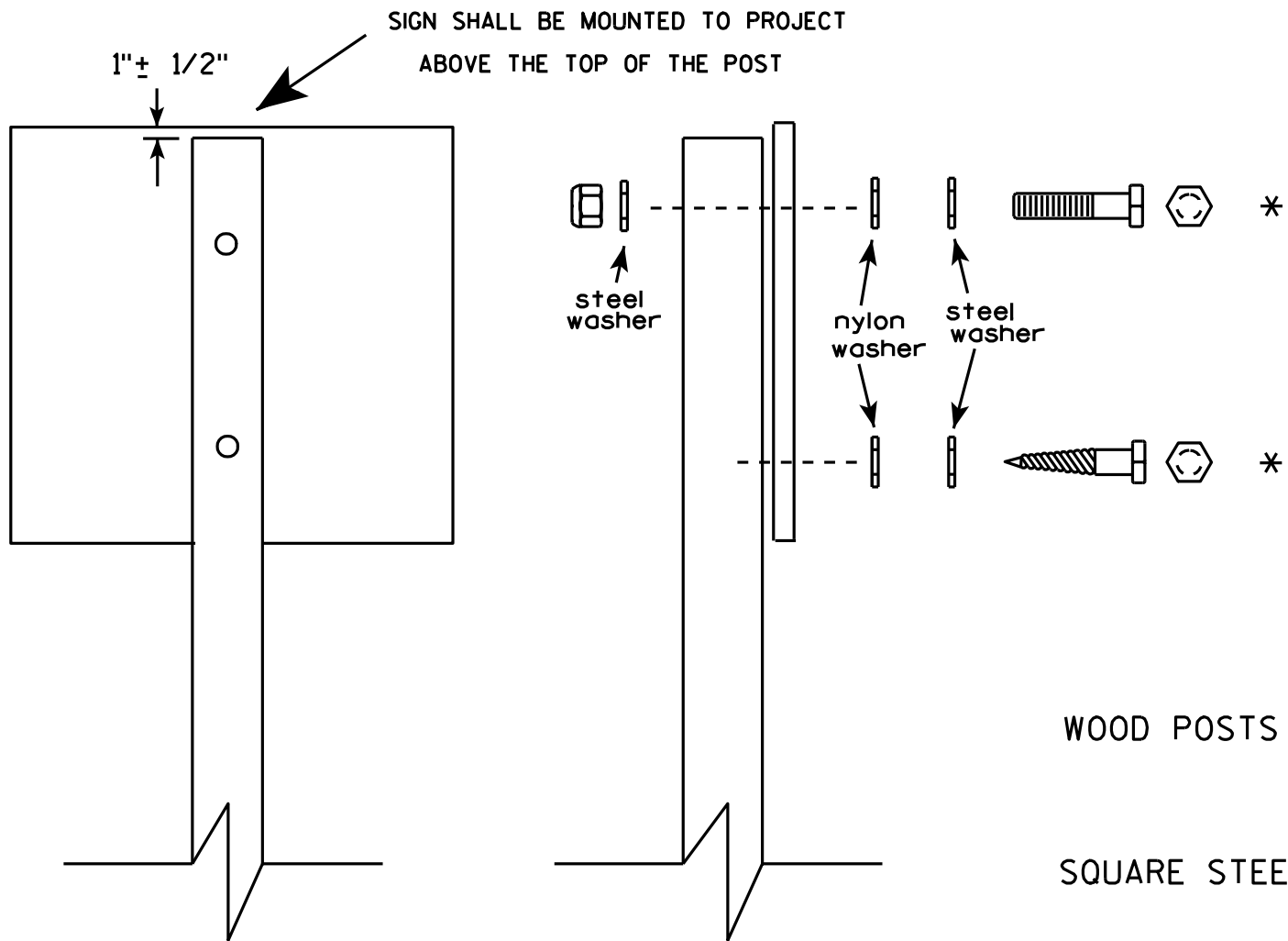
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

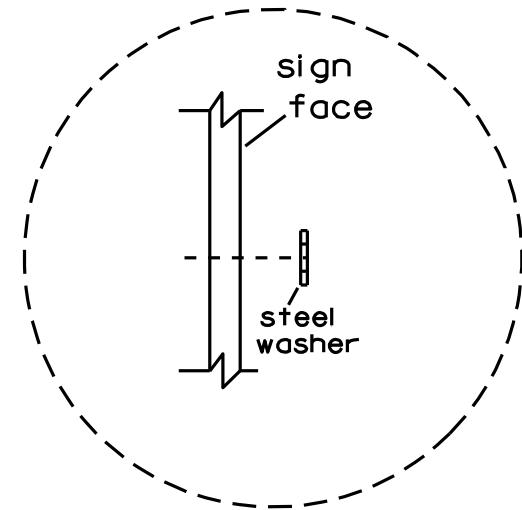


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3"
- MACHINE BOLTS - $\frac{5}{16}$ " X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts
- 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 for all Type H signs.



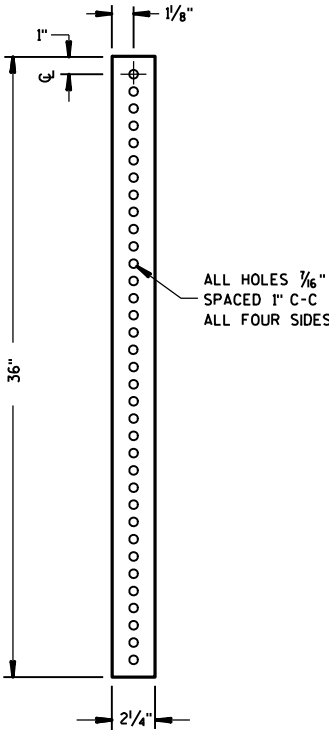
Washer Placement when Sign Has Other Than Type H or Type F Face

* 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.

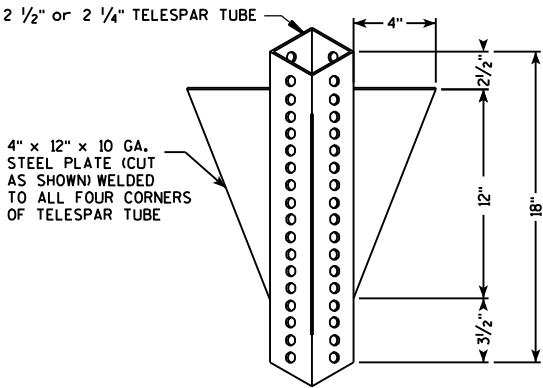
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

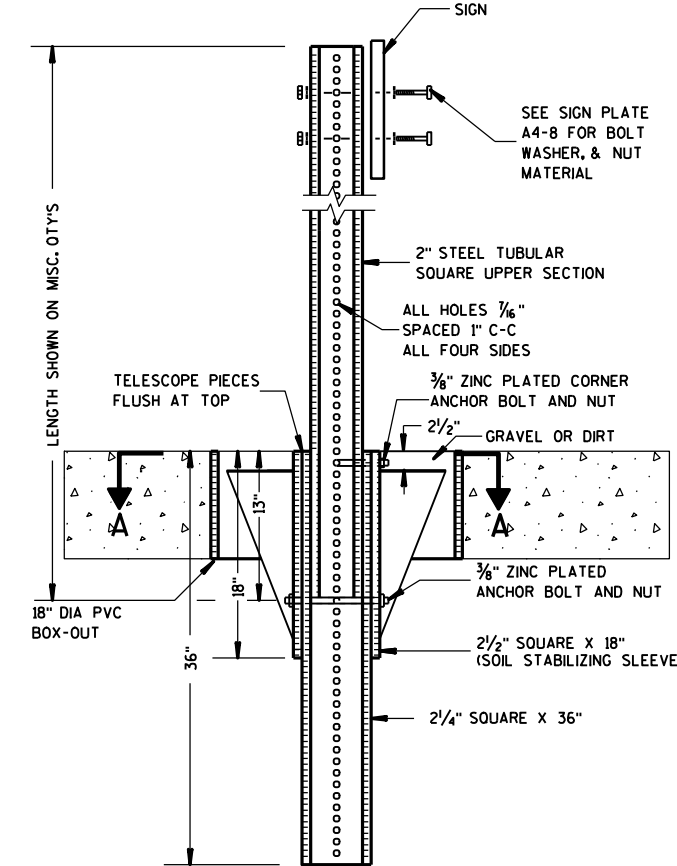
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



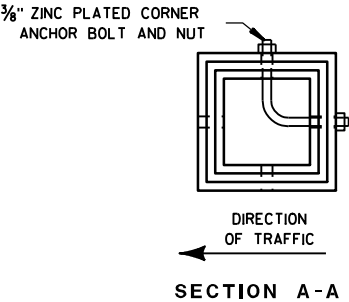
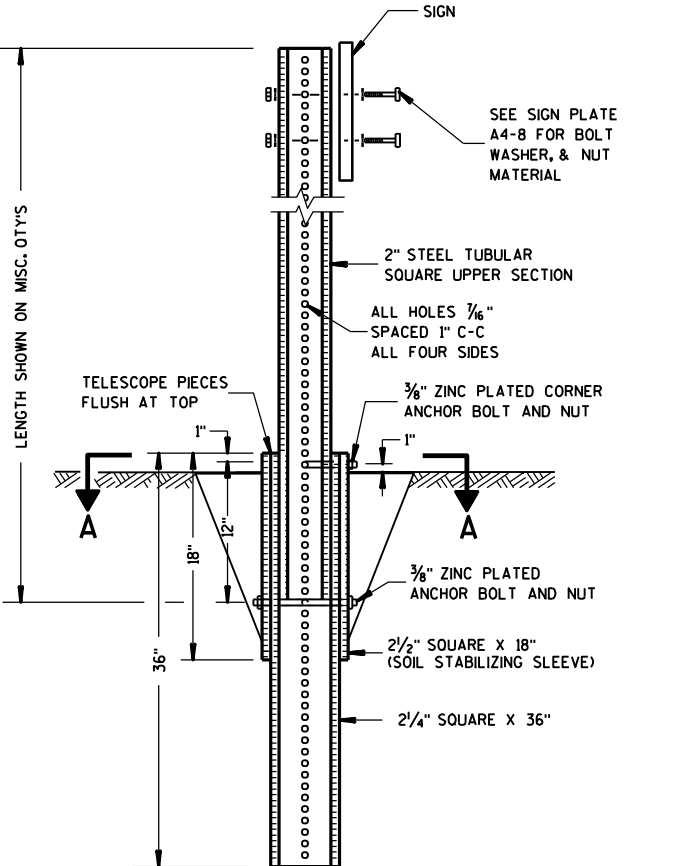
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

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

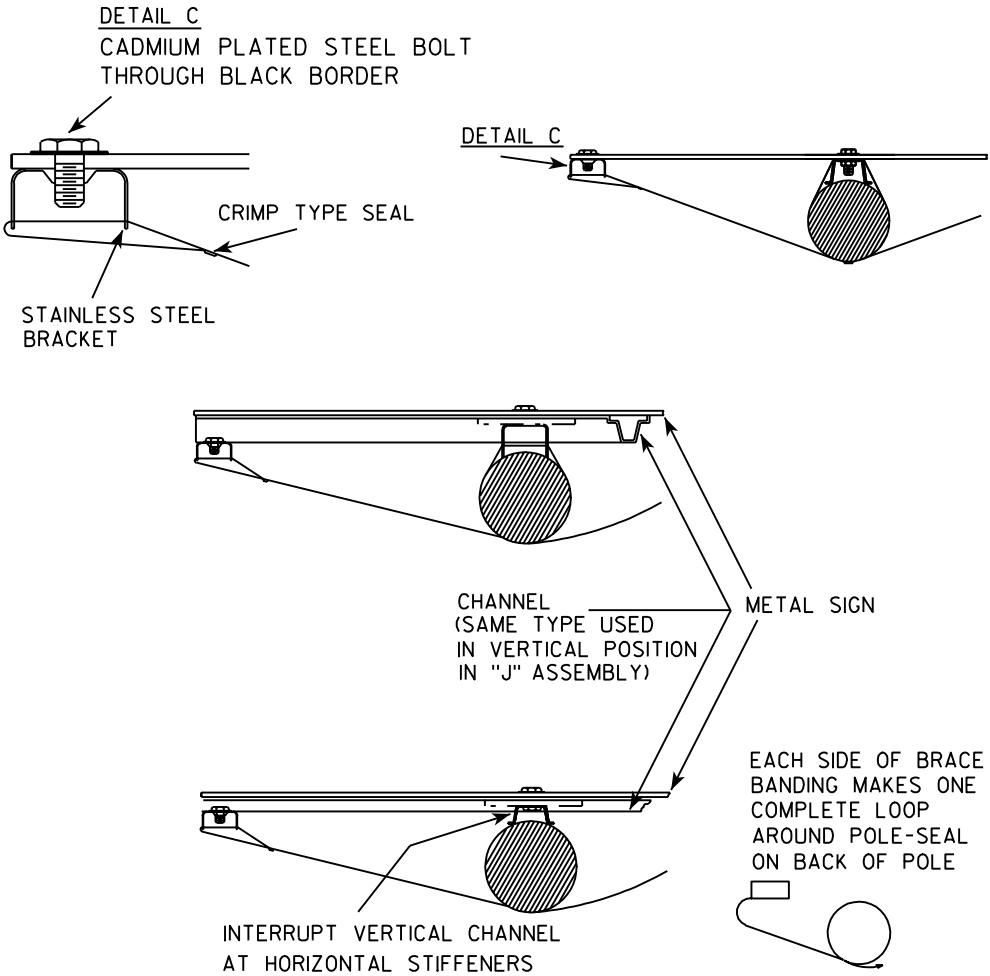
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/30/12 PLATE NO. A4-9.7

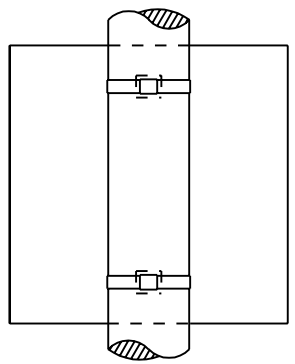
BRACE BANDING



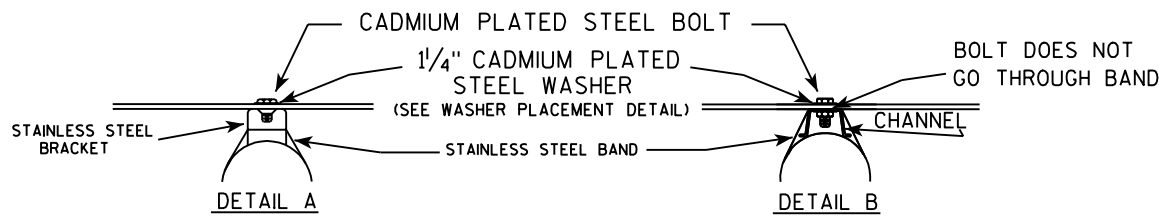
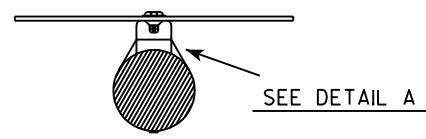
BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY
BUT NOT SO TIGHT AS TO APPRECIABLY
CURVE FACE OF SIGN.

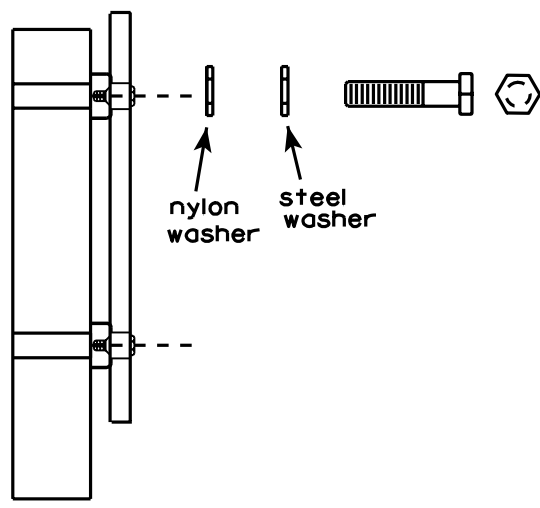
SINGLE SIGN



BRACKET BANDING

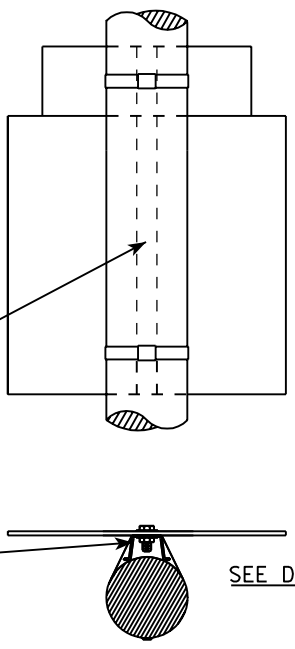


WASHER PLACEMENT



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

"J" ASSEMBLY



SEE DETAIL B

GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' 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.

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

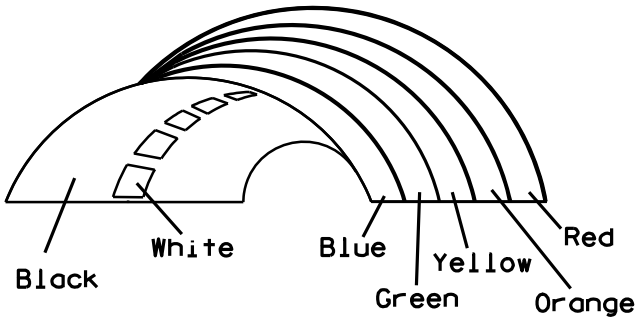
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2



* VARIES

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - (See Note 5)
3. Message Series - (See Note 6)
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. Border - Blue
Line 1 - Red
Line 2 - Black
Line 3-5 - Blue
6. Line 1 - Dutch 8011L
Line 2 - Series E
Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign 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																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

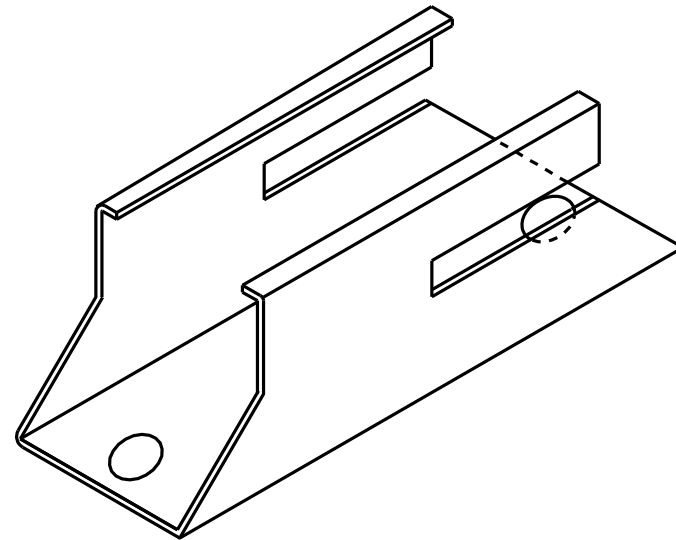
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

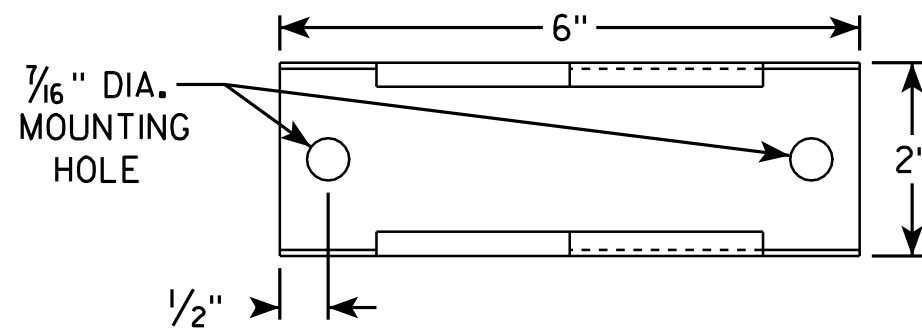
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

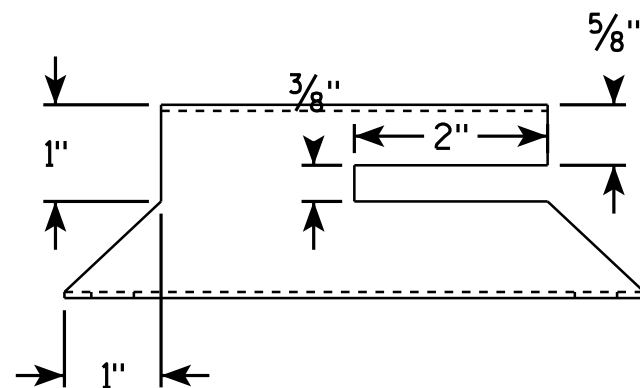
ISOMETRIC VIEW



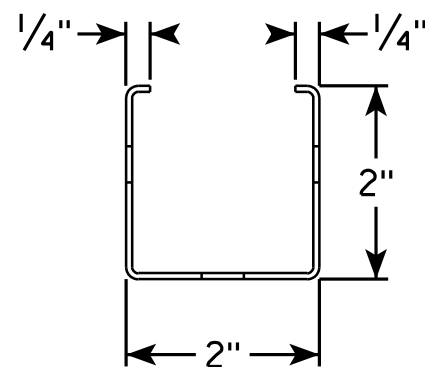
TOP VIEW



SIDE VIEW



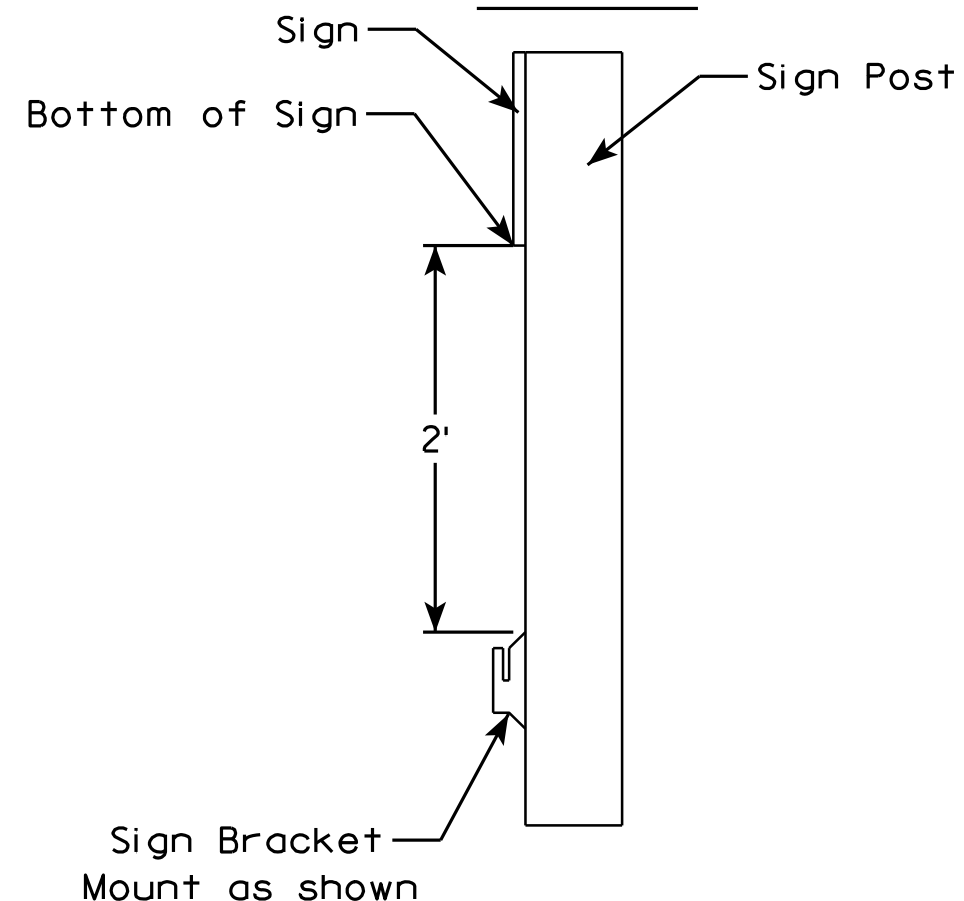
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

PROJECT NO:

HWY:

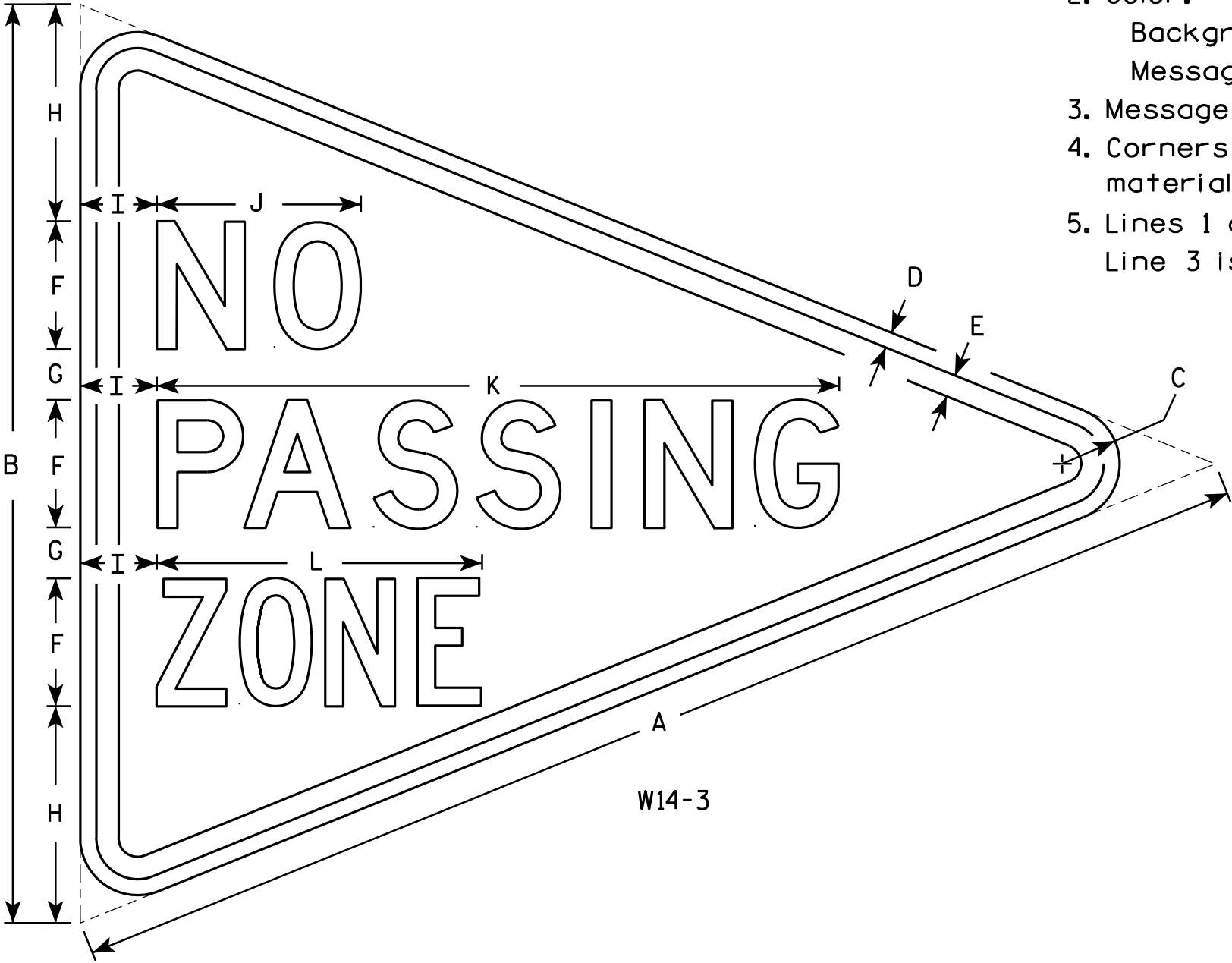
COUNTY:

SHEET NO:

E

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

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	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

DESIGN DATA

LIVE LOAD:

INVENTORY RATING; HS-26
OPERATIONAL RATING; HS-43
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY OVERLAY DECKS — f'_c = 4,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, EDGES OF DECK AND A PORTION OF THE UNDERSIDE OF DECK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN $\frac{1}{2}$ ".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

A BROKEN ANCHOR BOLT SHALL BE REPAIRED PER THE DETAIL.

REMOVE ANY/ALL LOOSE CONCRETE AT THE PIERS AND THE UNDERSIDE OF DECK UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEAN PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREA SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FOR THE CONCRETE SURFACE REPAIR AT EDGE OF SLAB, MATCH 3/4-INCH DRIP GROOVE AND DECK CHAMFERS OF EXISTING SLAB. SOME SURFACE REPAIRS AT THE PIER ARE BENEATH THE WATERLINE, THUS REQUIRING AN ESTABLISHMENT OF A DRY WORKING AREA.

TOTAL ESTIMATED QUANTITIES

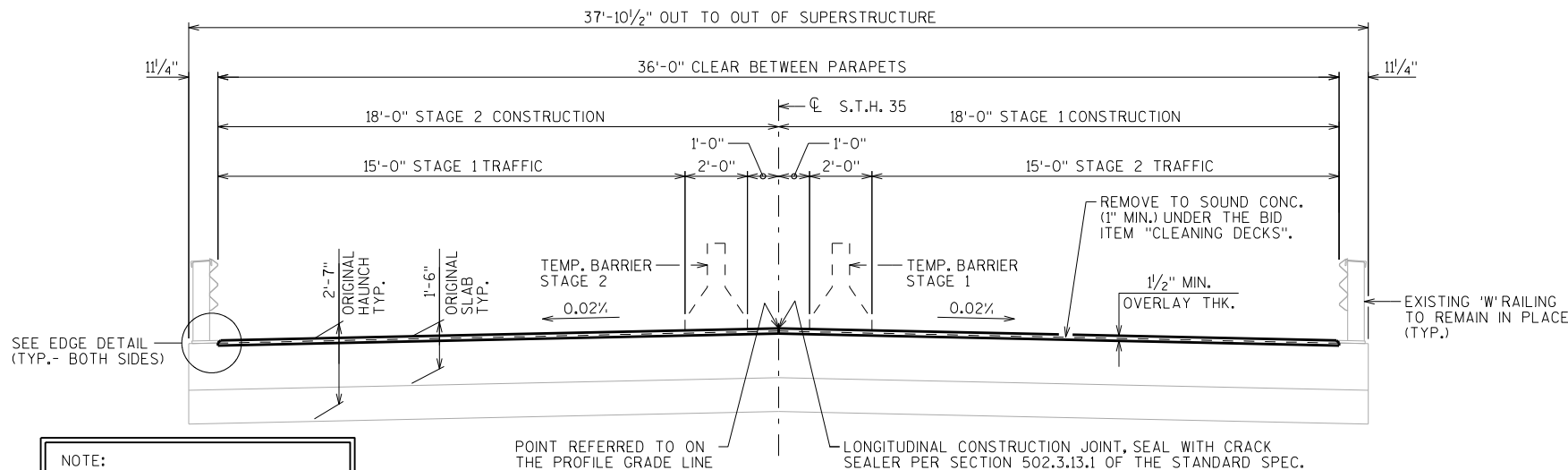
502.3200	PROTECTIVE SURFACE TREATMENT	380	SY
509.0301	PREPARATION DECKS TYPE 1	31	SY
509.0302	PREPARATION DECKS TYPE 2	3	SY
509.0500	CLEANING DECKS	320	SY
509.1500	CONCRETE SURFACE REPAIR	255	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	24	CY
SPV. 0060.01	ANCHOR BOLT REPAIR	1	EACH

INCLUDES CONCRETE FOR BID ITEMS "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR"

STRUCTURE DESIGN CONTACT:

MAY LIU (608) 266-5163
DAVID KIEKBUSCH (608) 266-5084
CRAIG WEHRLE (608) 266-8487

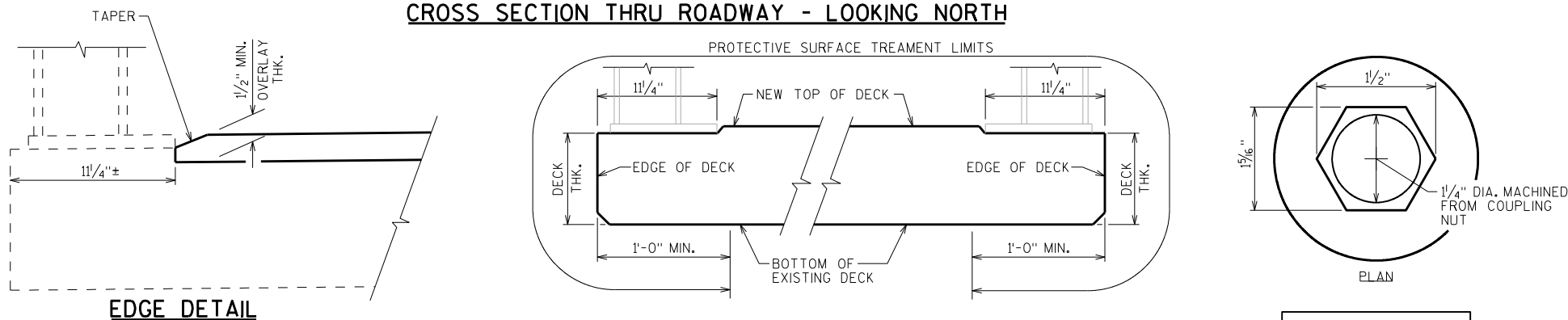
NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dreher</i>		5/2/13 DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-12-41			
S.T.H. 35 OVER PICATEE CREEK			
COUNTY	CRAWFORD	TOWN/CITY/VILLAGE	EASTMAN
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	DESIGN CKD.	DRAWN BY	PLANS CKD.
MMW		DD	WWR
CONCRETE OVERLAY			SHEET 1 OF 1



NOTE:
UPDATE THRIE BEAM CONNECTIONS
PER S.D.D. 14B 20-10E
(SEE ROADWAY PLANS)

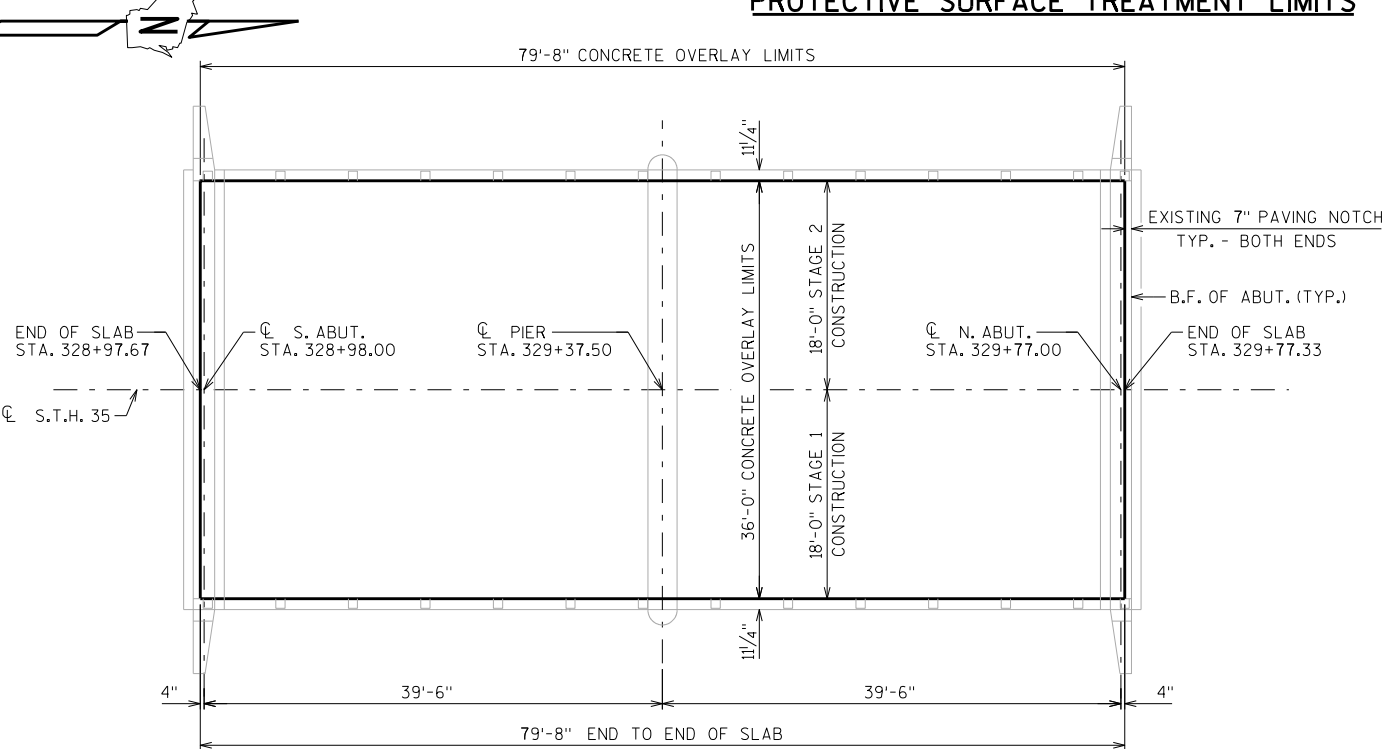
AVERAGE OVERLAY THICKNESS = $2\frac{3}{8}$ "

CROSS SECTION THRU ROADWAY - LOOKING NORTH



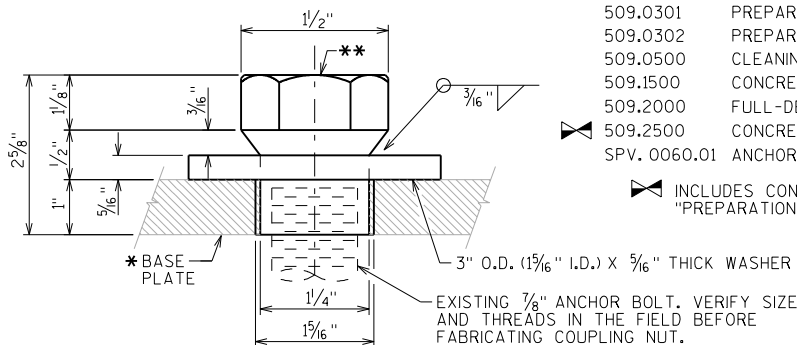
EDGE DETAIL

PROTECTIVE SURFACE TREATMENT LIMITS



PLAN

COUPLING NUT MODIFIED TO GRIP ANCHOR BOLT



ANCHOR BOLT REPAIR DETAIL

- * DRILL, REAM OR GRIND BASE PLATE TO ENLARGE HOLE
- ** FILL WITH SILICON SEALANT, INCIDENTAL TO WORK.

MATERIALS:

COUPLING NUT - ASTM A563 GRADE DH
WASHER - ASTM A325 OR M293
HOT DIP ZINC COATING AFTER FABRICATION - ASTM A153

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21

OPERATIONAL RATING: HS-45

MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY OVERLAY DECKS — $f'_c = 4,000$ P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN $\frac{1}{2}$ ".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVE ANY/ALL LOOSE CONCRETE AT THE PIERS AND THE UNDERSIDE OF DECK UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEAN PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREA SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

AFTER "CLEANING PARAPETS" IS COMPLETED A PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND ROADWAY FACE OF PARAPETS INCLUDING THE PARAPETS ON THE ABUTMENT WINGS.

REMOVE EXISTING CAULK AND RE-CAULK JOINTS WITH JOINT SEALER AT PARAPETS AFTER CLEANING AND APPLYING PIGMENTED PROTECTIVE SURFACE TREATMENT.

FOR THE CONCRETE SURFACE REPAIR AT EDGE OF SLAB, MATCH 3/4-INCH DRIP GROOVE AND DECK CHAMFERS OF EXISTING SLAB.

TOTAL ESTIMATED QUANTITIES

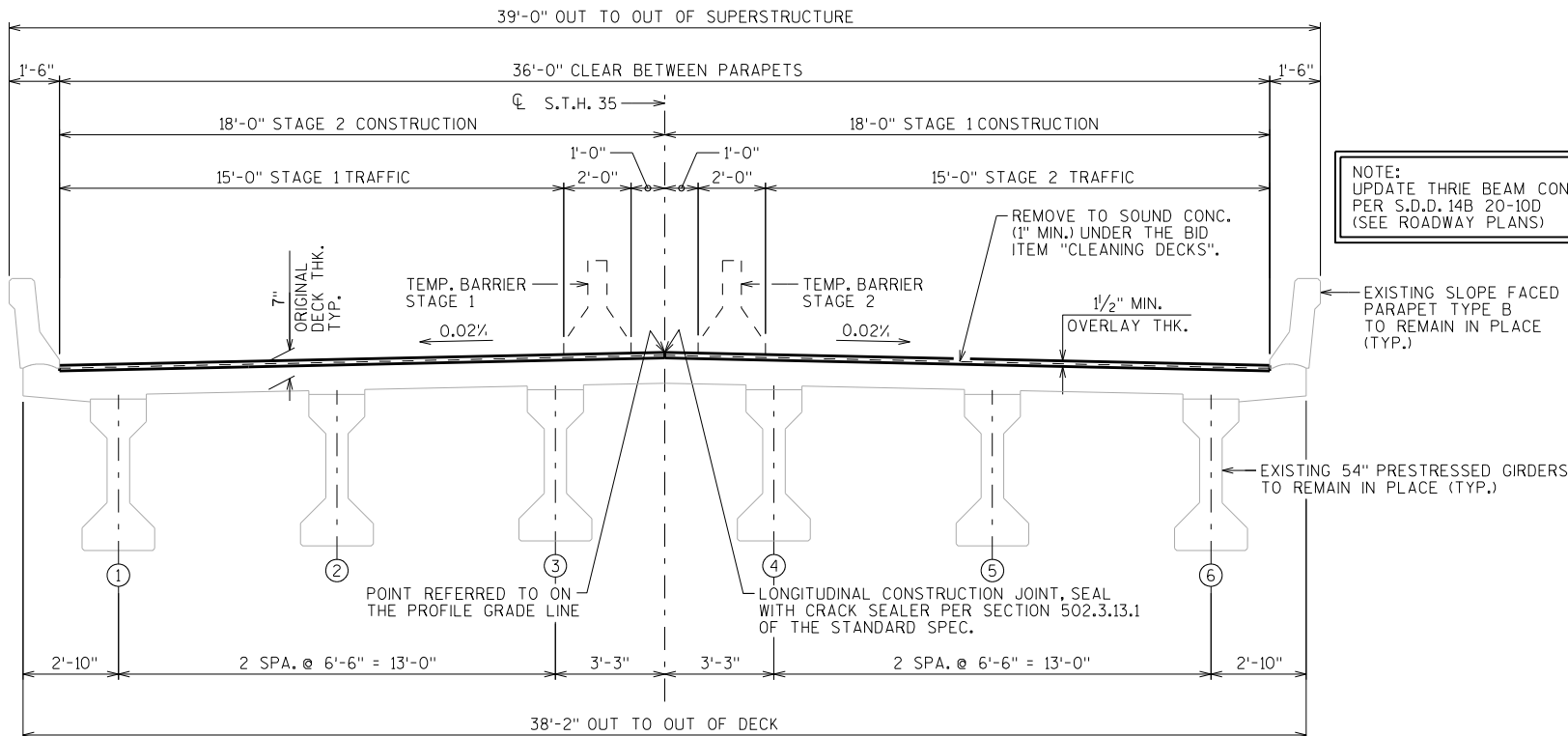
502.3200	PROTECTIVE SURFACE TREATMENT	435	SY
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	110	SY
509.0301	PREPARATION DECKS TYPE 1	42	SY
509.0302	PREPARATION DECKS TYPE 2	3	SY
509.0500	CLEANING DECKS	435	SY
509.1500	CONCRETE SURFACE REPAIR	10	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	45	CY

INCLUDES CONCRETE FOR BID ITEMS "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL-DEPTH DECK REPAIR".

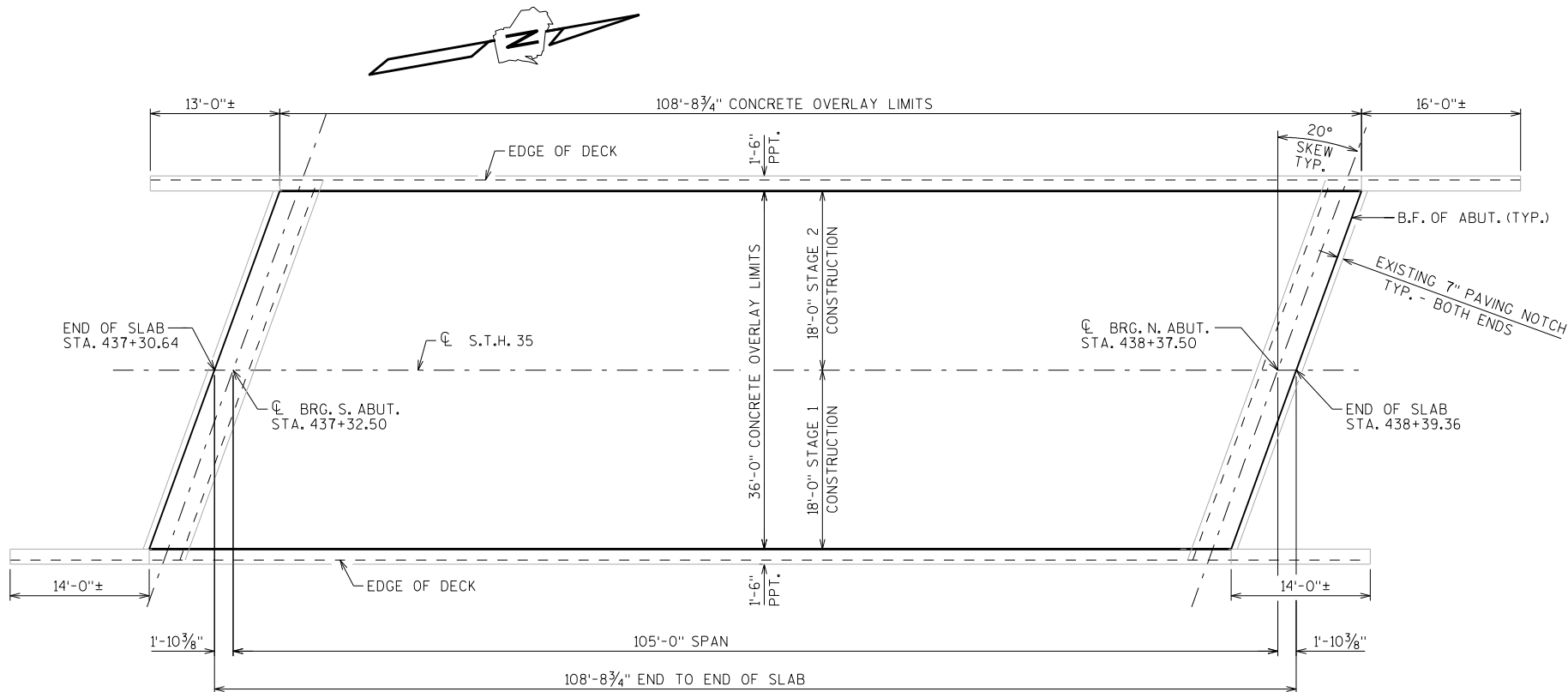
STRUCTURE DESIGN CONTACT:

MAY LIU (608) 266-5163
DAVID KIEBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED <i>William C. Dierker</i>		5/2/13 DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-12-42			
S.T.H. 35 OVER DU CHARME CREEK			
COUNTY	CRAWFORD	TOWN/CITY/VILLAGE	EASTMAN
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	MWL	DESIGN CK'D.	NAR
DRAWN BY	DDS	PLANS CK'D.	WWR
CONCRETE OVERLAY			SHEET 1 OF 1



CROSS SECTION THRU ROADWAY - LOOKING NORTH

AVERAGE OVERLAY THK. = $3\frac{1}{2}$ "

PLAN

LIVE LOAD:
INVENTORY RATING; HS-27
OPERATIONAL RATING; HS-29
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 230 KIPS.

CONCRETE MASONRY OVERLAY DECKS— $f'_c = 4,000$ P.S.I.

DRAWINGS SHALL NOT BE SCALED.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, EDGES OF DECK AND A PORTION OF THE UNDERSIDE OF DECK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN 1/2".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED THE ENGINEER IN THE FIELD.

REMOVE ANY/ALL LOOSE CONCRETE AT THE PIERS AND THE UNDERSIDE OF DECK UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEAN PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREA SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FOR THE CONCRETE SURFACE REPAIR AT EDGE OF SLAB, MATCH 3/4-INCH DRIP GROOVE AND DECK CHAMFERS OF EXISTING SLAB. SOME SURFACE REPAIRS AT THE PIER ARE BENEATH THE WATERLINE, THUS REQUIRING AN ESTABLISHMENT OF A DRY WORKING AREA.

502.3200	PROTECTIVE SURFACE TREATMENT _____	420	SY
509.0301	PREPARATION DECKS TYPE 1 _____	34	SY
509.0302	PREPARATION DECKS TYPE 2 _____	1	SY
509.0500	CLEANING DECKS _____	369	SY
509.1500	CONCRETE SURFACE REPAIR _____	330	SF
509.2000	FULL-DEPTH DECK REPAIR _____	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS _____	23	CY

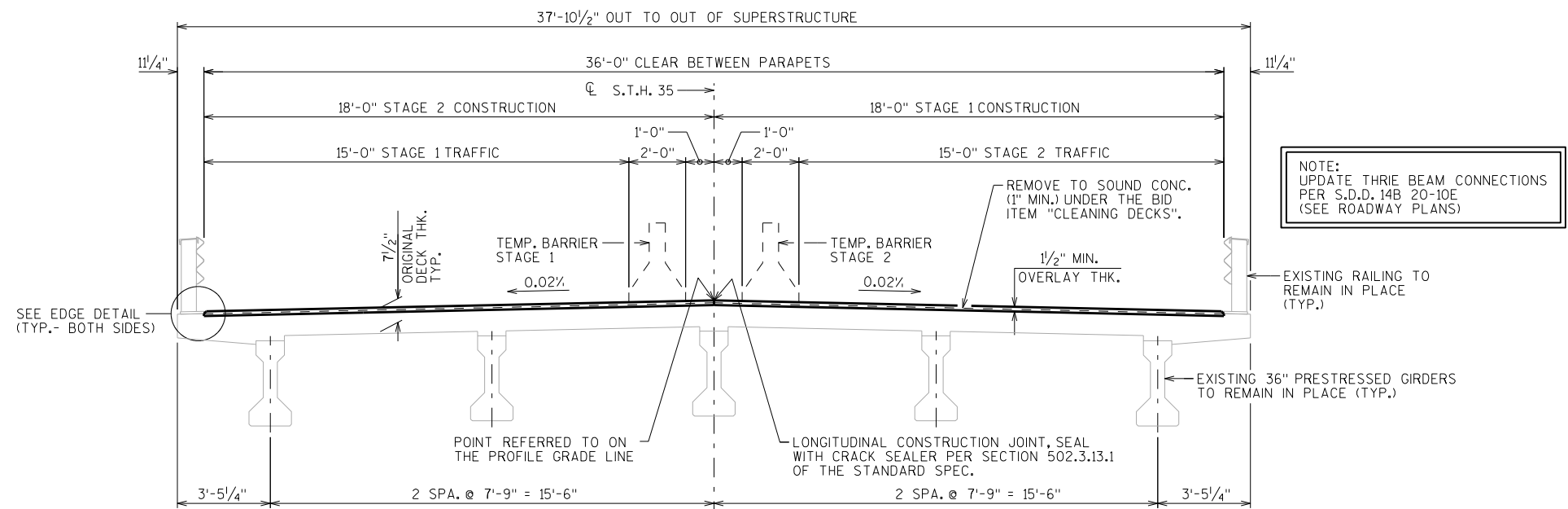
 INCLUDES CONCRETE FOR BID ITEMS "PREPARATION DECKS TYPE 1",
PREPARATION DECKS TYPE 2" AND "FULL-DEPTH DECK REPAIR".

STRUCTURE DESIGN CONTACT:
MAY LIU (608) 266-5163
DAVID KIEKBUSCH (608) 266-5084

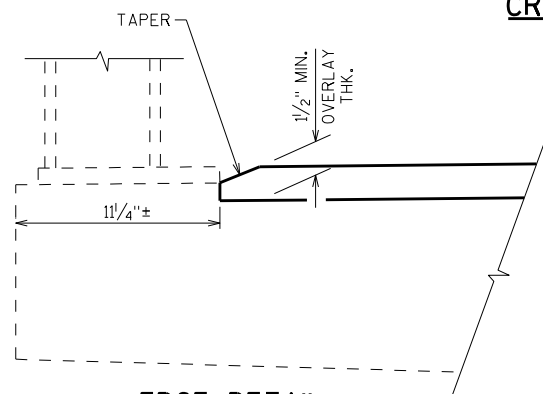
NO.		DATE		REVISION		BY	
		Plans Prepared By		WISDOT			
				BUREAU OF STRUCTURES			
ACCEPTED		<i>William C. Dehn</i> DUE		5/2/13			
		CHIEF STRUCTURES DESIGN ENGINEER		DATE			
STRUCTURE B-12-43							
S.T.H. 35 OVER LEITNER HOLLOW CREEK							
COUNTY		CRAWFORD		TOWN/CITY/VILLAGE		SENECA	
DESIGN SPEC.		REHABILITATION		N/A			
DESIGNED BY		DESIGN CK'D.		DRAWN BY		PLANS CK'D.	
MWL		NAR		DDS		WWR	
CONCRETE OVERLAY				SHEET 1 OF 1			

SCALE = 8.00

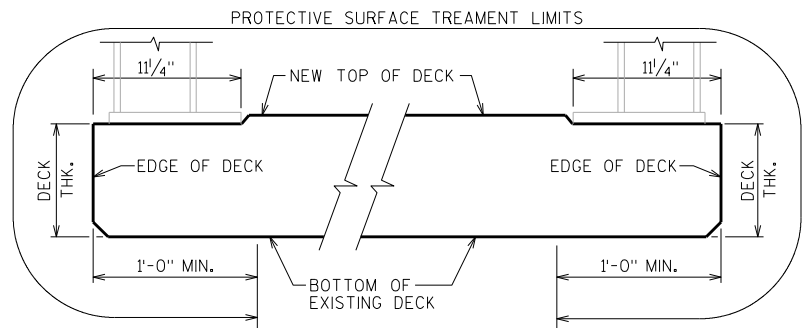
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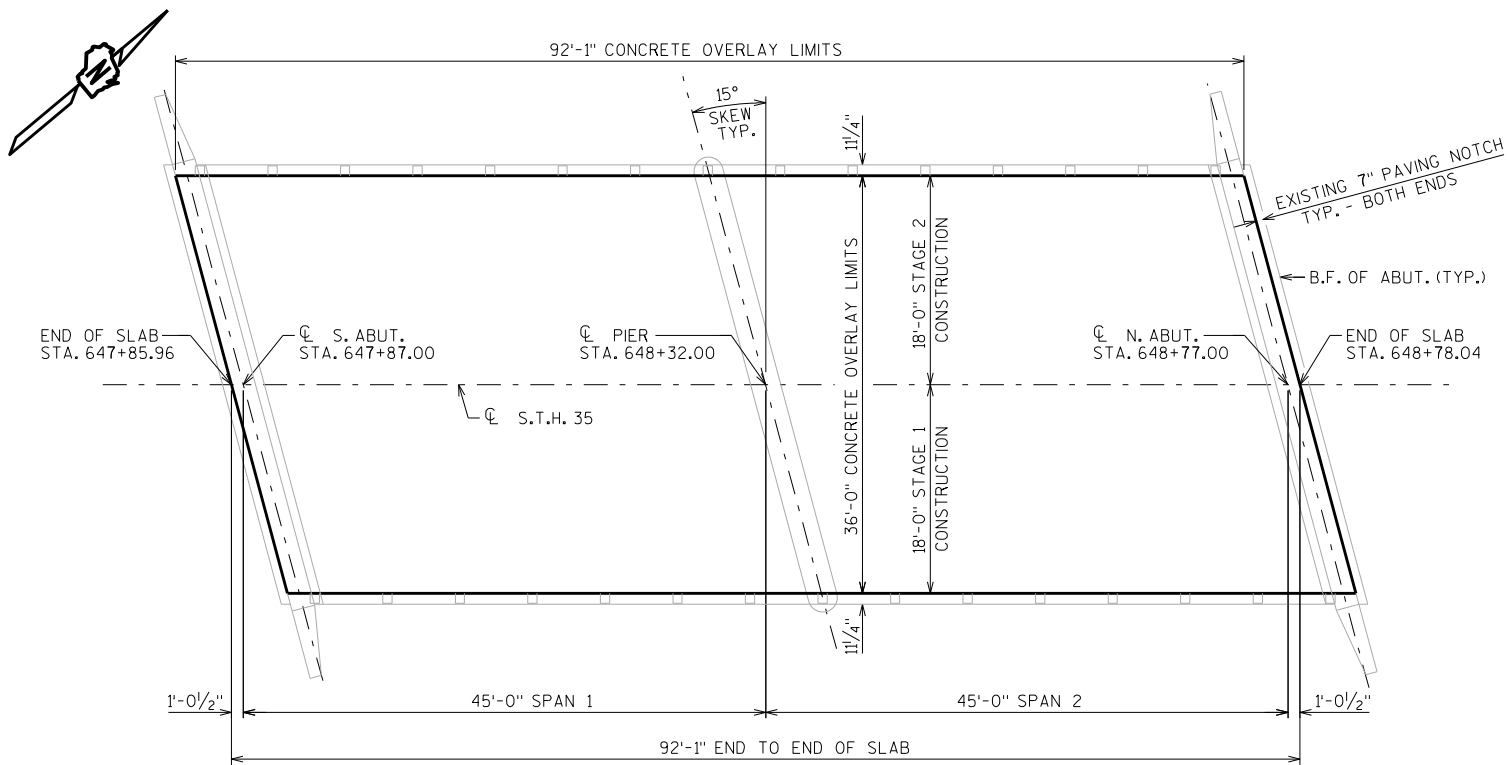
CROSS SECTION THRU ROADWAY - LOOKING NORTH



EDGE DETAIL



PROTECTIVE SURFACE TREATMENT LIMITS



PLAN

LIVE LOAD:
INVENTORY RATING; HS-23
OPERATIONAL RATING; HS-29
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 231 KIPS.

CONCRETE MASONRY OVERLAY DECKS— $f'_c = 4,000$ P.S.I.

DRAWINGS SHALL NOT BE SCALED.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, EDGES OF DECK AND A PORTION OF THE UNDERSIDE OF DECK.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN 1/2".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED THE ENGINEER IN THE FIELD.

REMOVE ANY/ALL LOOSE CONCRETE AT THE PIERS AND THE UNDERSIDE OF DECK UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEAN PRIOR TO THE CONCRETE SURFACE REPAIRS BEING COMPLETED. REPAIR AREA SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

CLEAN AND PAINT THE STEEL POST BASE PLATES AND ANCHOR BOLTS/NUTS. PREPARE AND RE-CAULK AROUND BASE PLATES. THESE ITEMS ARE INCLUDED IN THE BID ITEM "REFURBISH STEEL POST BASE PLATES AND BOLTS."

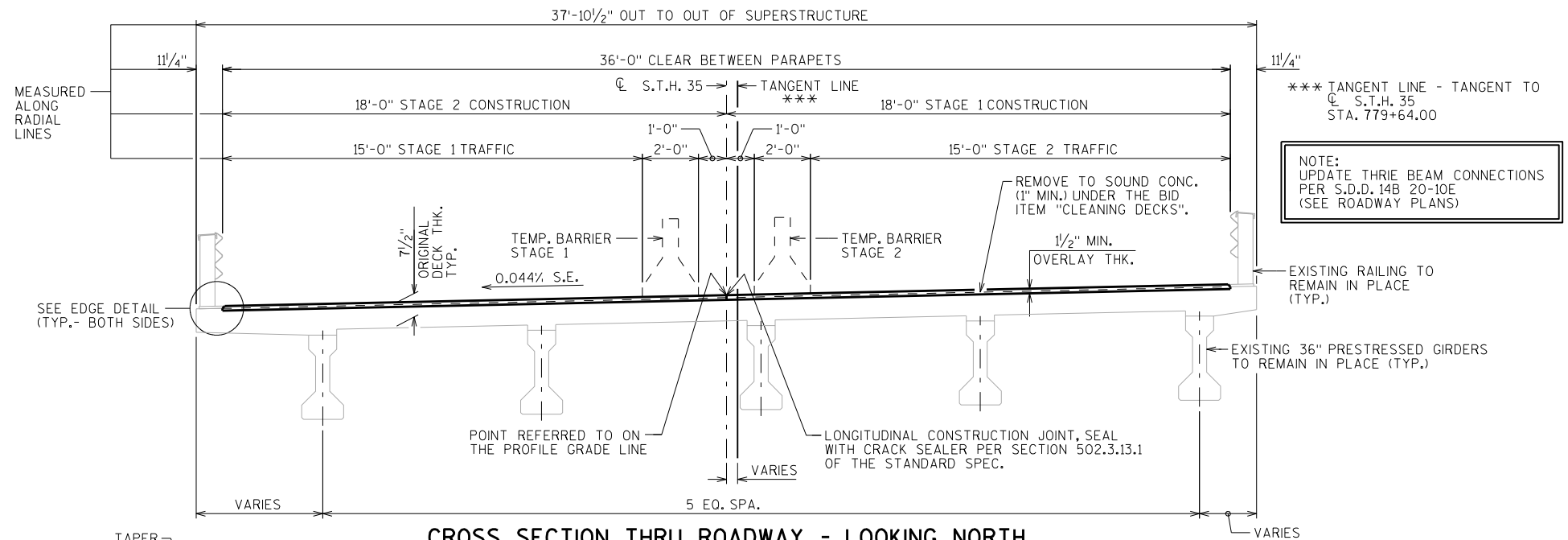
FOR THE CONCRETE SURFACE REPAIR AT EDGE OF SLAB, MATCH 3/4-INCH DRIP GROOVE AND DECK CHAMFERS OF EXISTING SLAB. SOME SURFACE REPAIRS AT THE PIER ARE BENEATH THE WATERLINE, THUS REQUIRING AN ESTABLISHMENT OF A DRY WORKING AREA.

502.3200	PROTECTIVE SURFACE TREATMENT	451	SY
509.0301	PREPARATION DECKS TYPE 1	41	SY
509.0302	PREPARATION DECKS TYPE 2	3	SY
509.0500	CLEANING DECKS	395	SY
509.1500	CONCRETE SURFACE REPAIR	250	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	32	CY
SPV.0060.02	REFURBISH STEEL POST BASE PLATES AND BOLTS	32	EACH

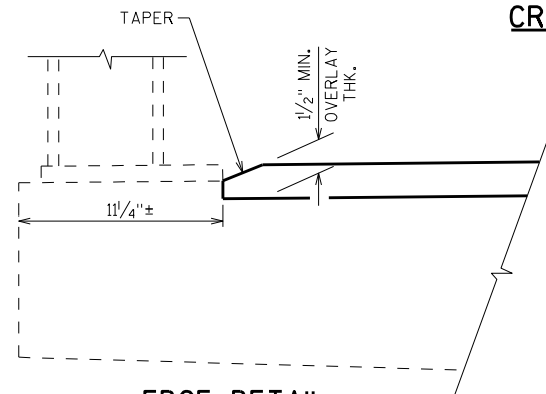
✂ INCLUDES CONCRETE FOR BID ITEMS "PREPARATION DECKS TYPE 1",
PREPARATION DECKS TYPE 2" AND "FULL DEPTH DECK
REPAIR".

STRUCTURE DESIGN CONTACT:
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DAVID KIEKBUSCH (608) 266-5084

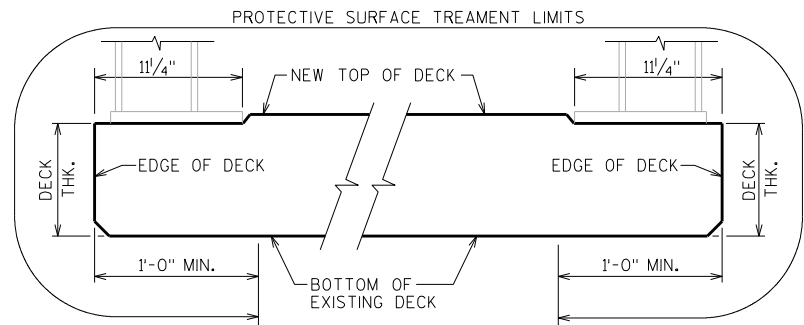
NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED	<i>William C. Decher</i> DUR CHIEF STRUCTURES DESIGN ENGINEER		5/2/13 DATE
STRUCTURE B-12-45			
S.T.H. 35 OVER MORGAN HOLLOW CREEK			
COUNTY	CRAWFORD	TOWN/CITY/VILLAGE LYNNVILLE	
DESIGN SPEC.		REHABILITATION N/A	
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MWL	VT	DDS	WWR
CONCRETE OVERLAY			SHEET 1 OF 1



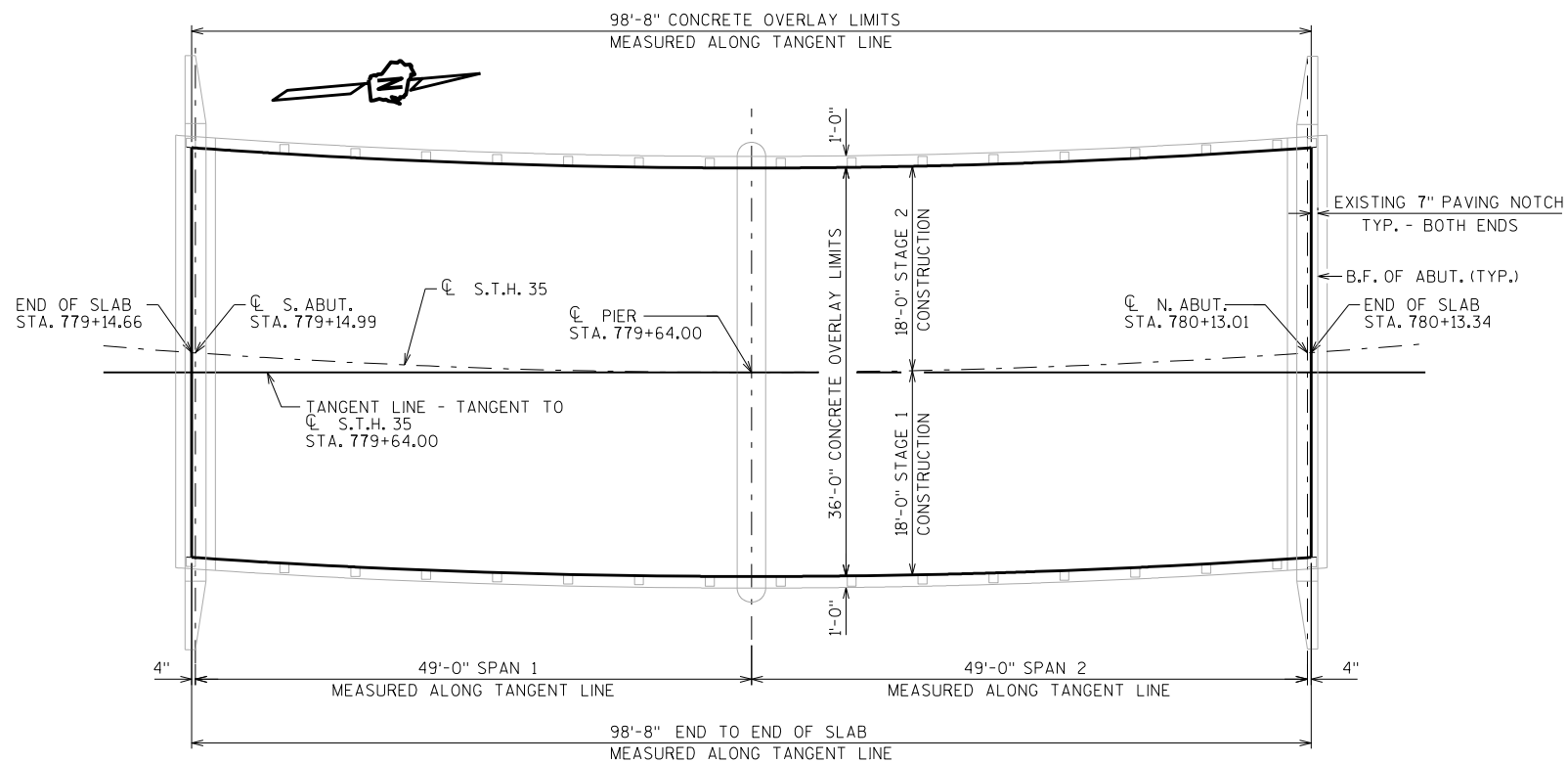
CROSS SECTION THRU ROADWAY - LOOKING NORTH



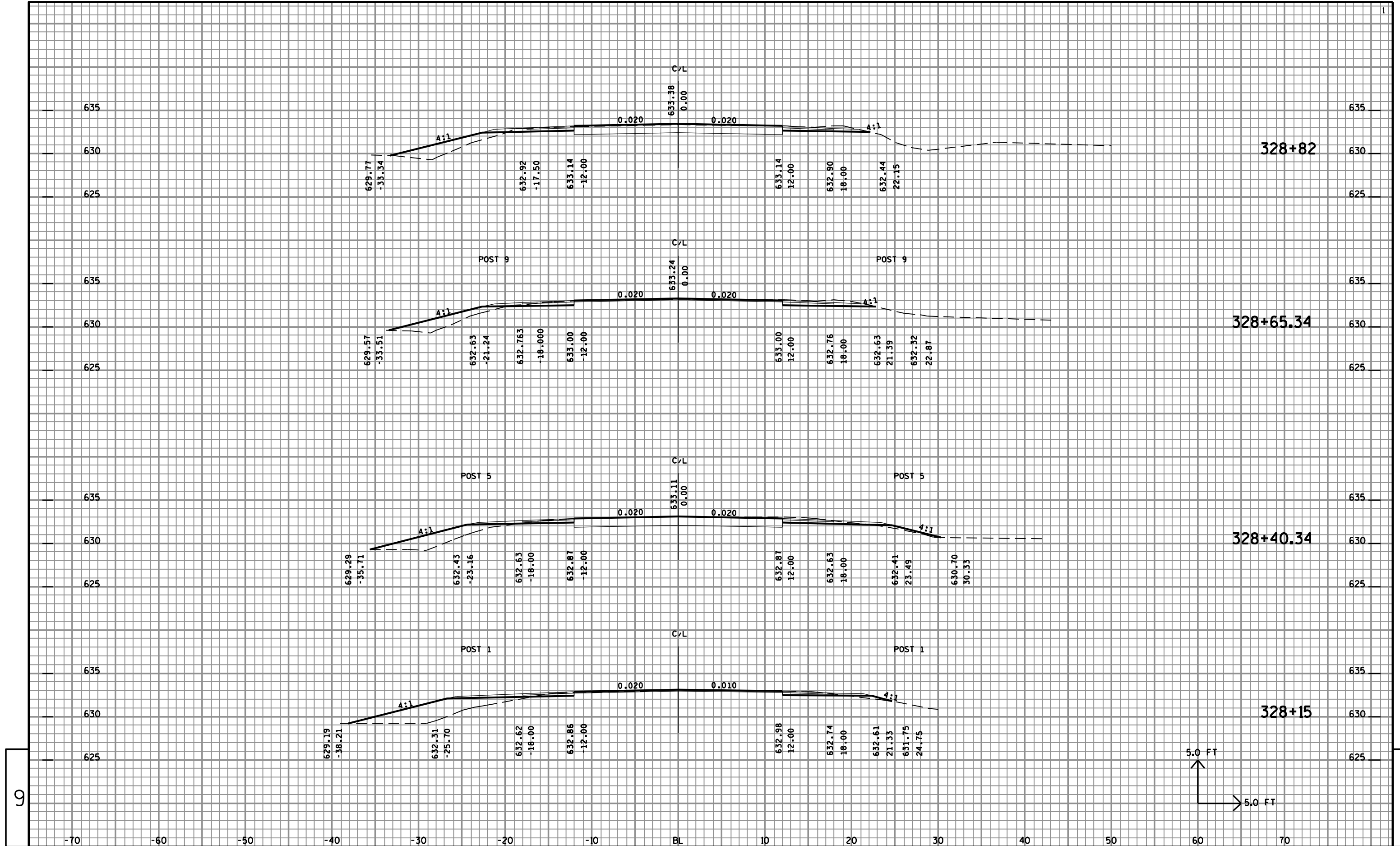
EDGE DETAIL



PROTECTIVE SURFACE TREATMENT LIMITS



PLAN



PROJECT NO: 5160-00-63

HWY: STH 35

COUNTY: CRAWFORD

CROSS SECTIONS: B-12-41

SHEET NO:

E

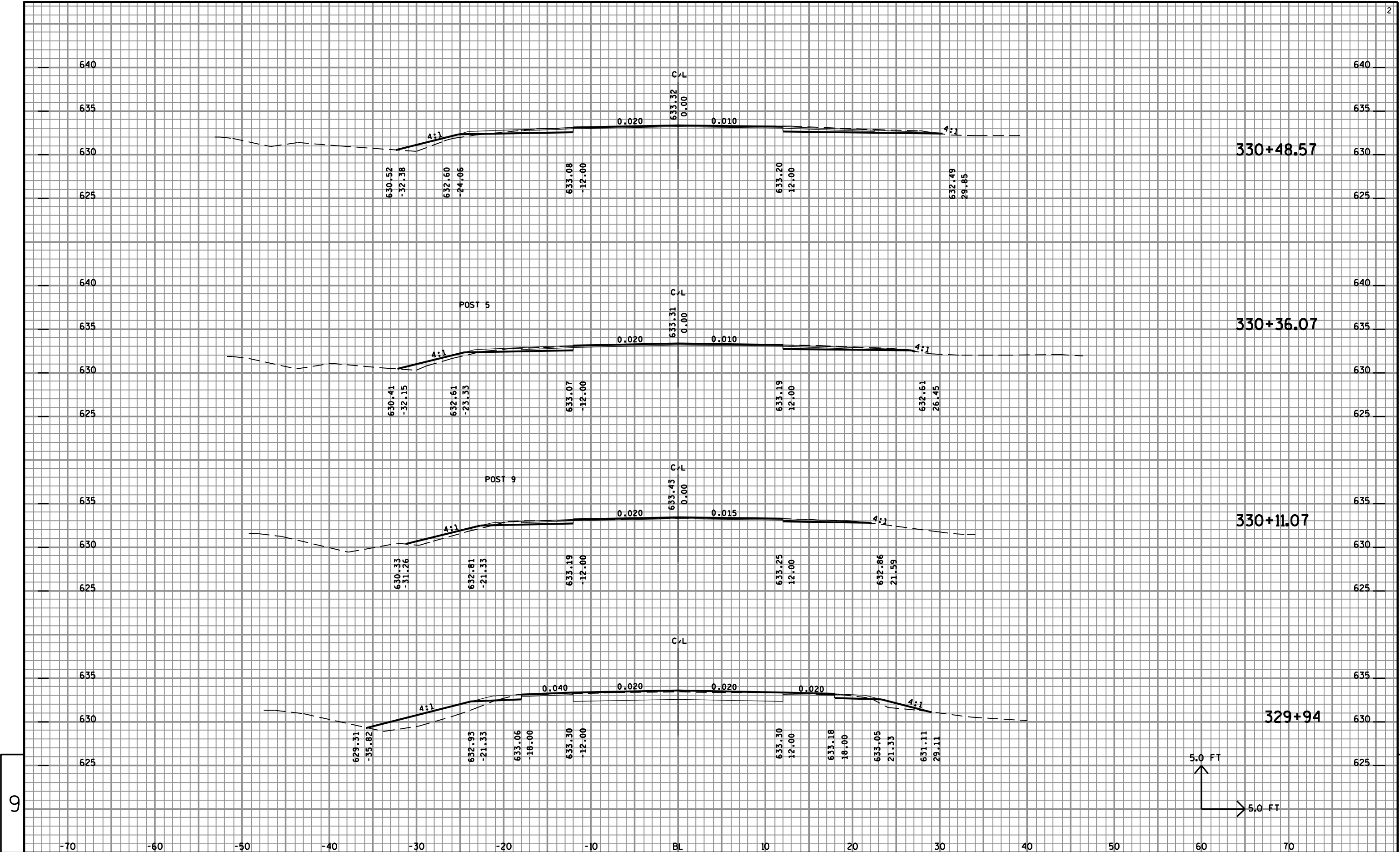
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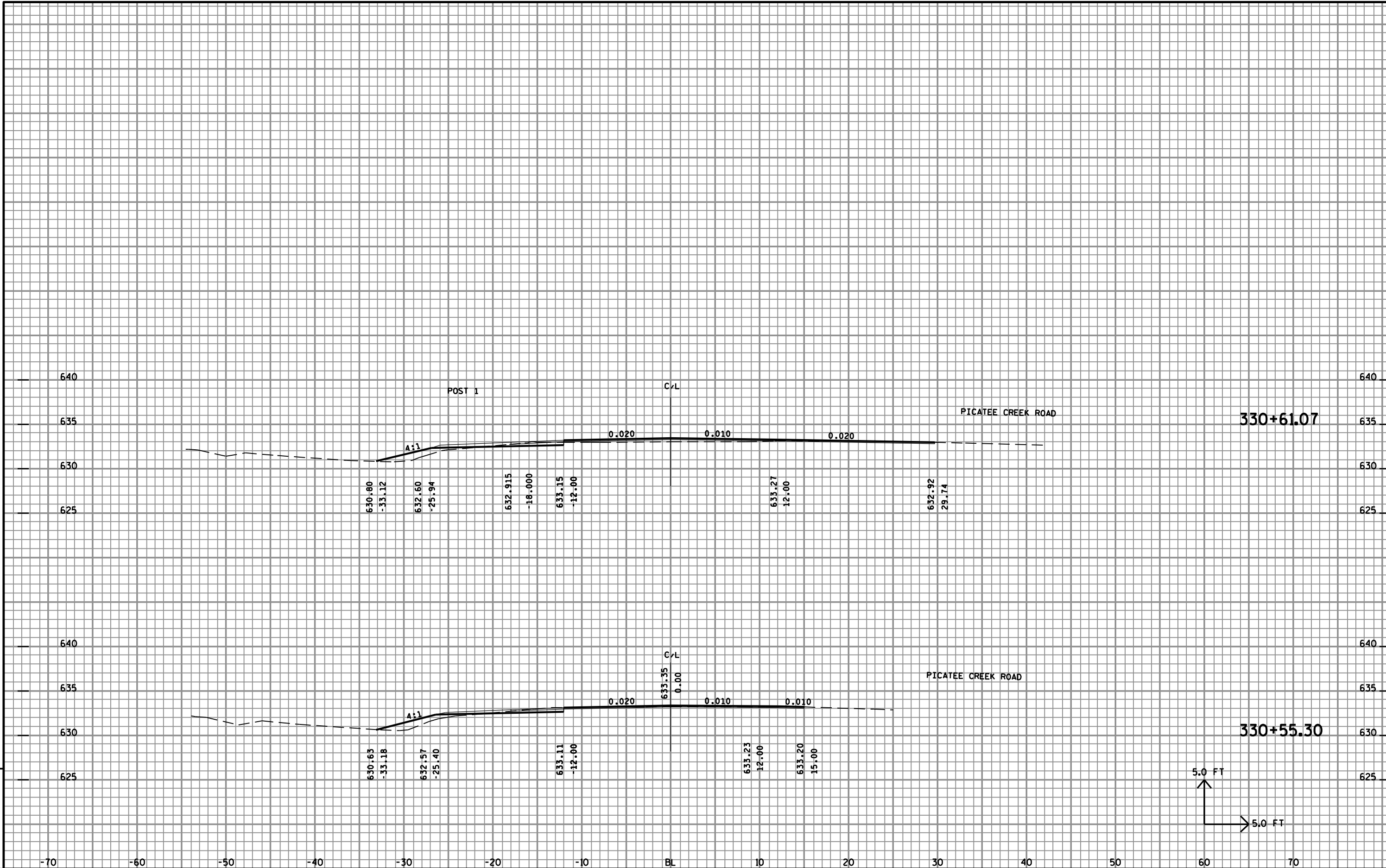
PLOT DATE : 23-APR-2013 18:37

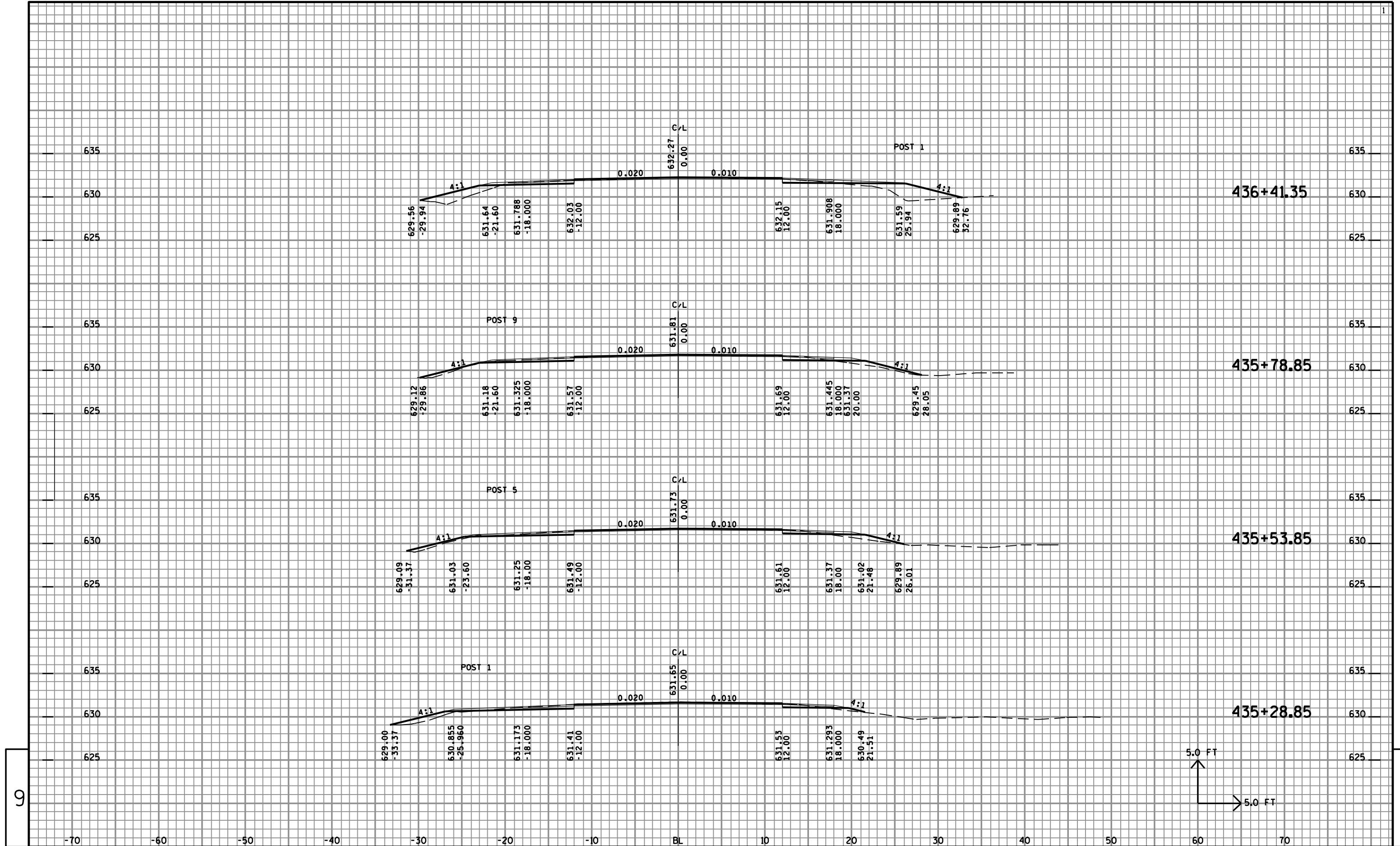
PLOT BY : dotwov

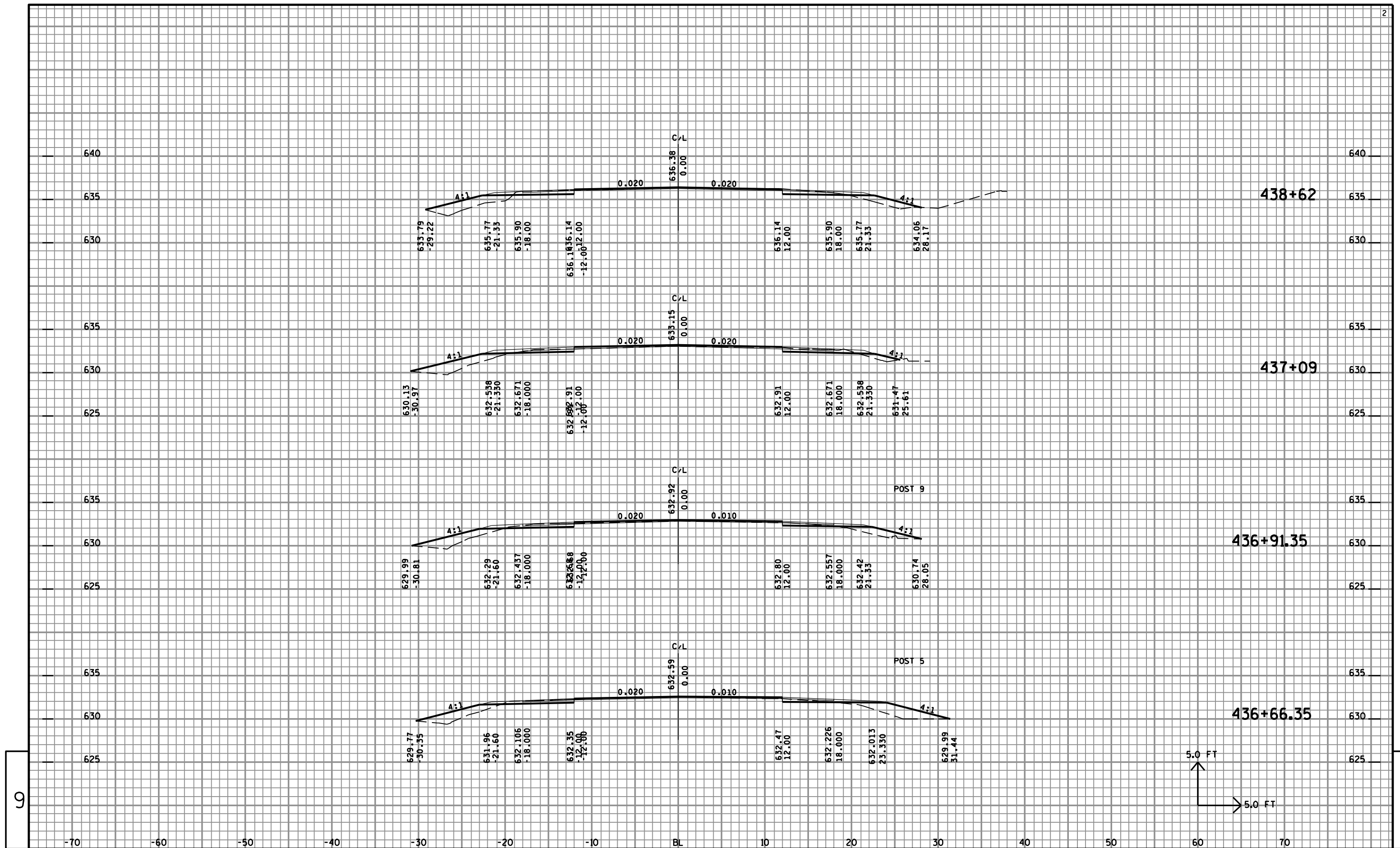
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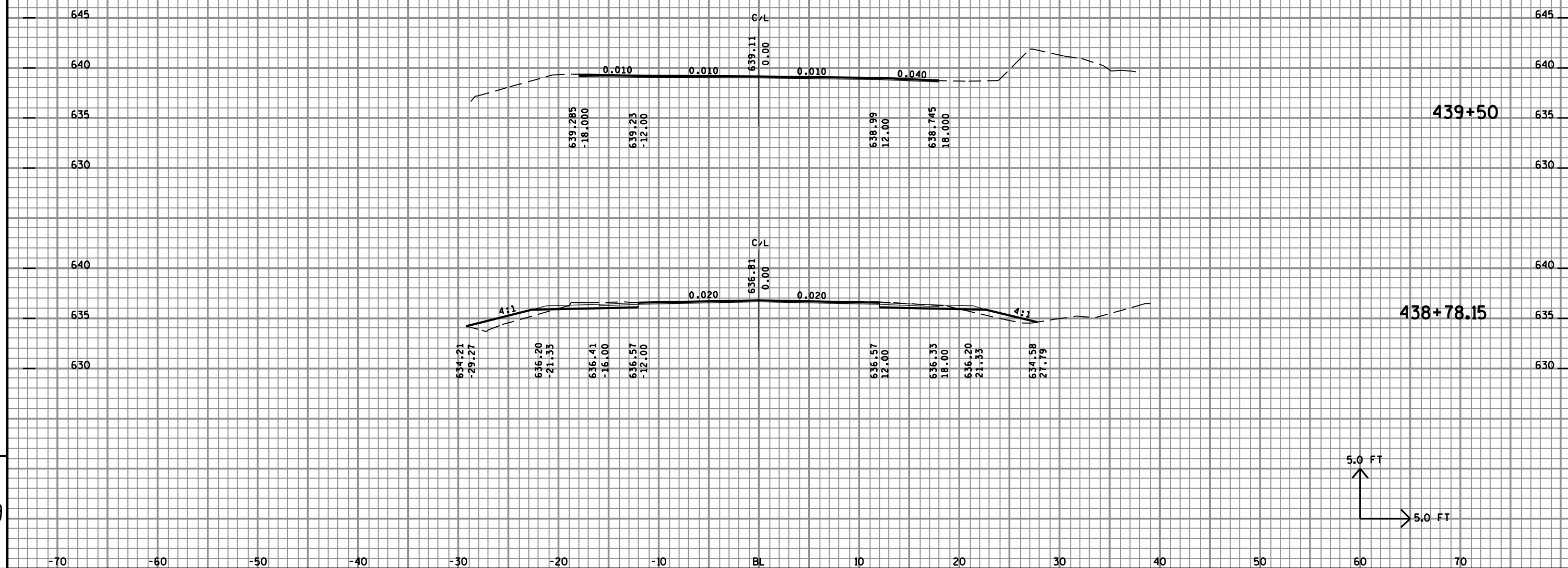
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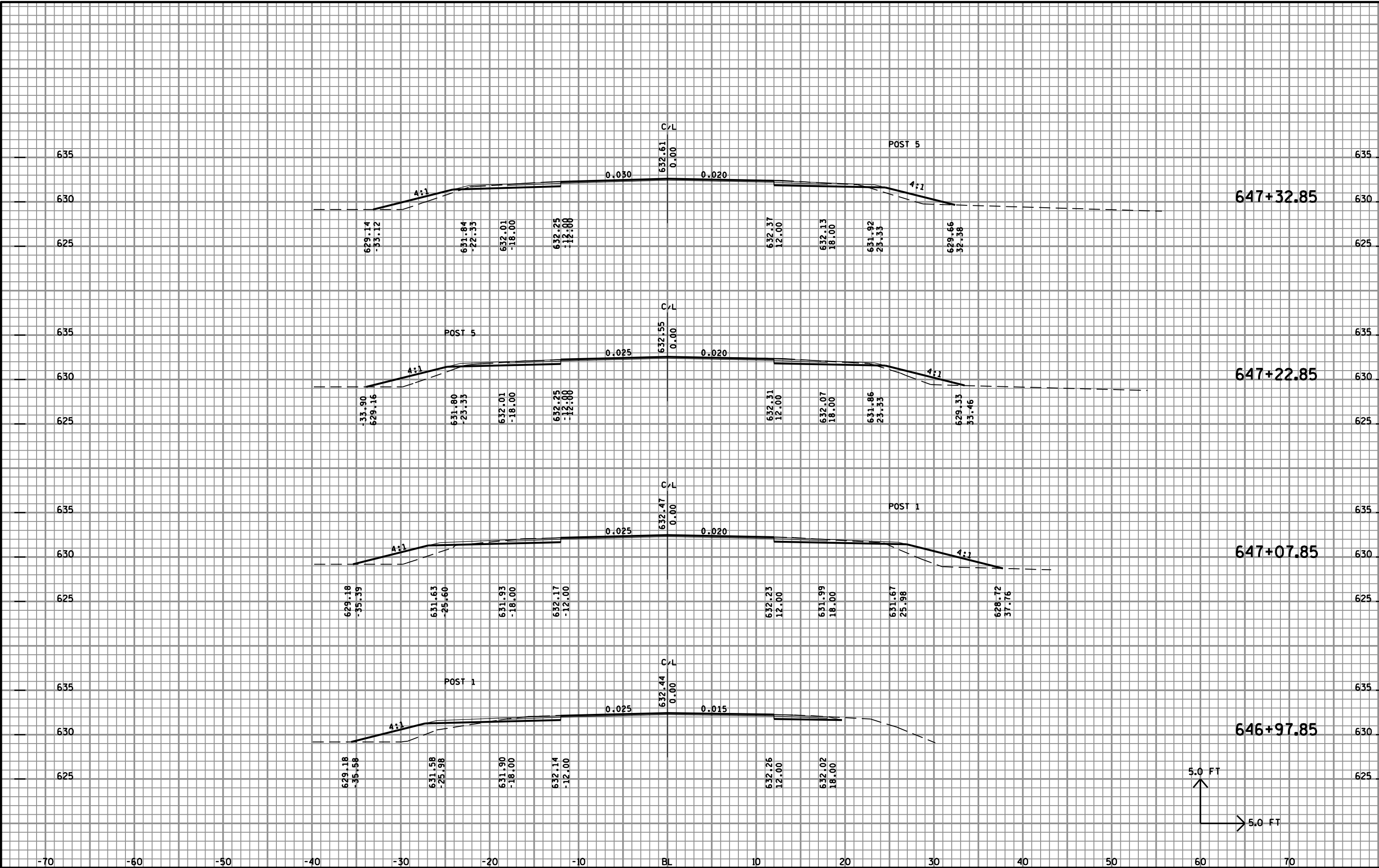




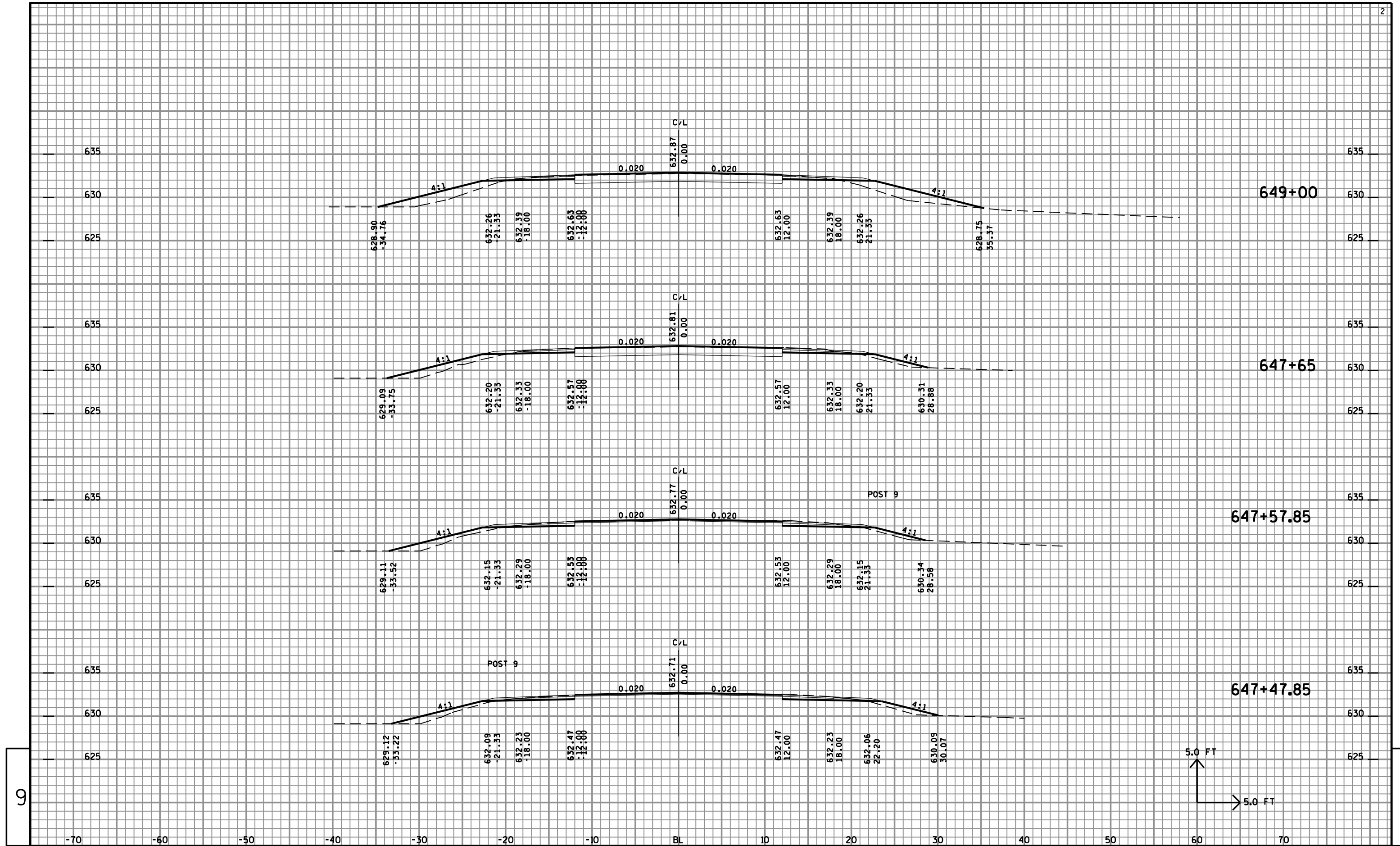
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PROJECT NO: 5160-00-63

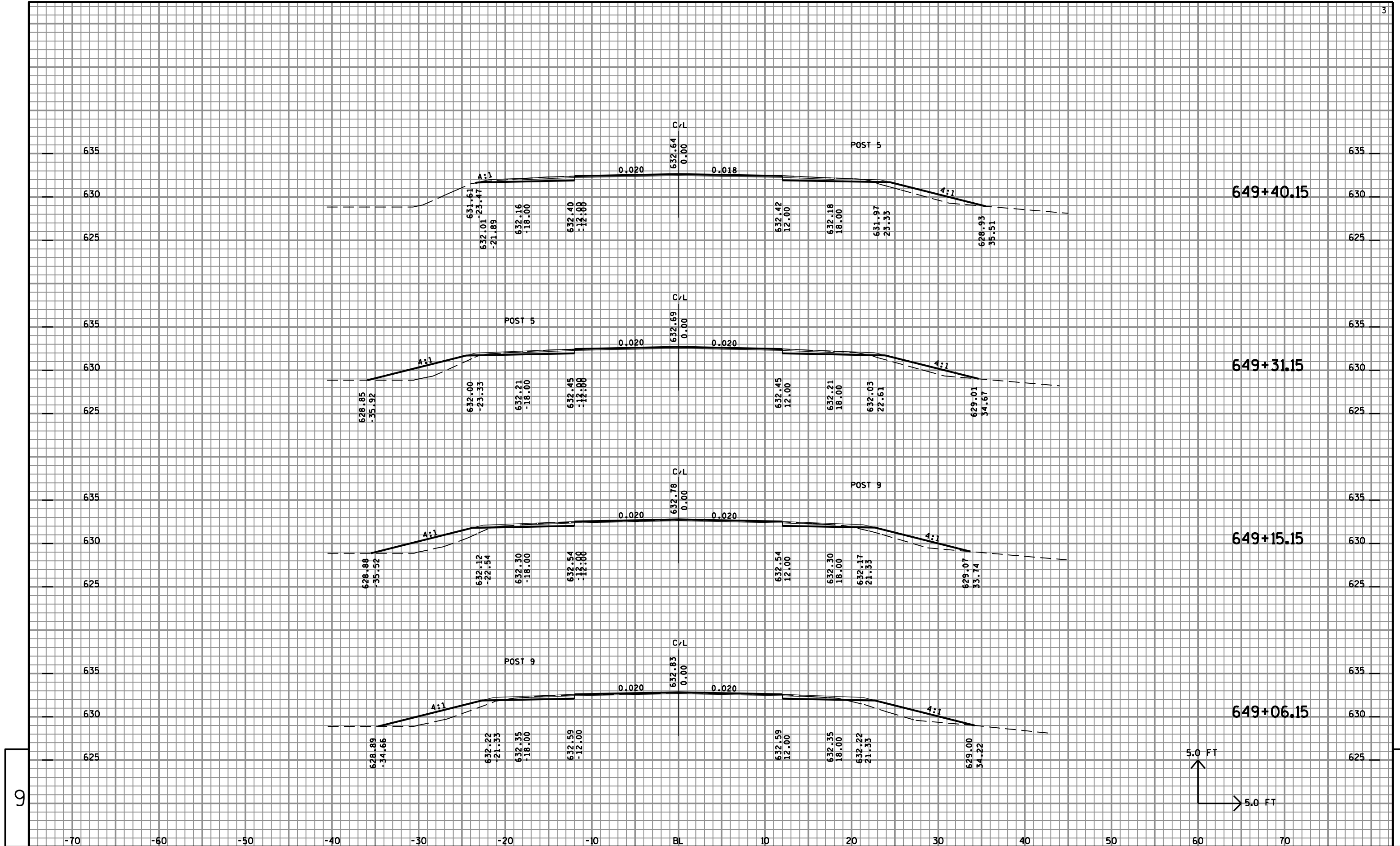
HWY: STH 35

COUNTY: CRAWFORD

CROSS SECTIONS: B-12-43

SHEET NO:

E



PROJECT NO: 5160-00-63

HWY: STH 35

COUNTY: CRAWFORD

CROSS SECTIONS: B-12-43

SHEET NO:

E

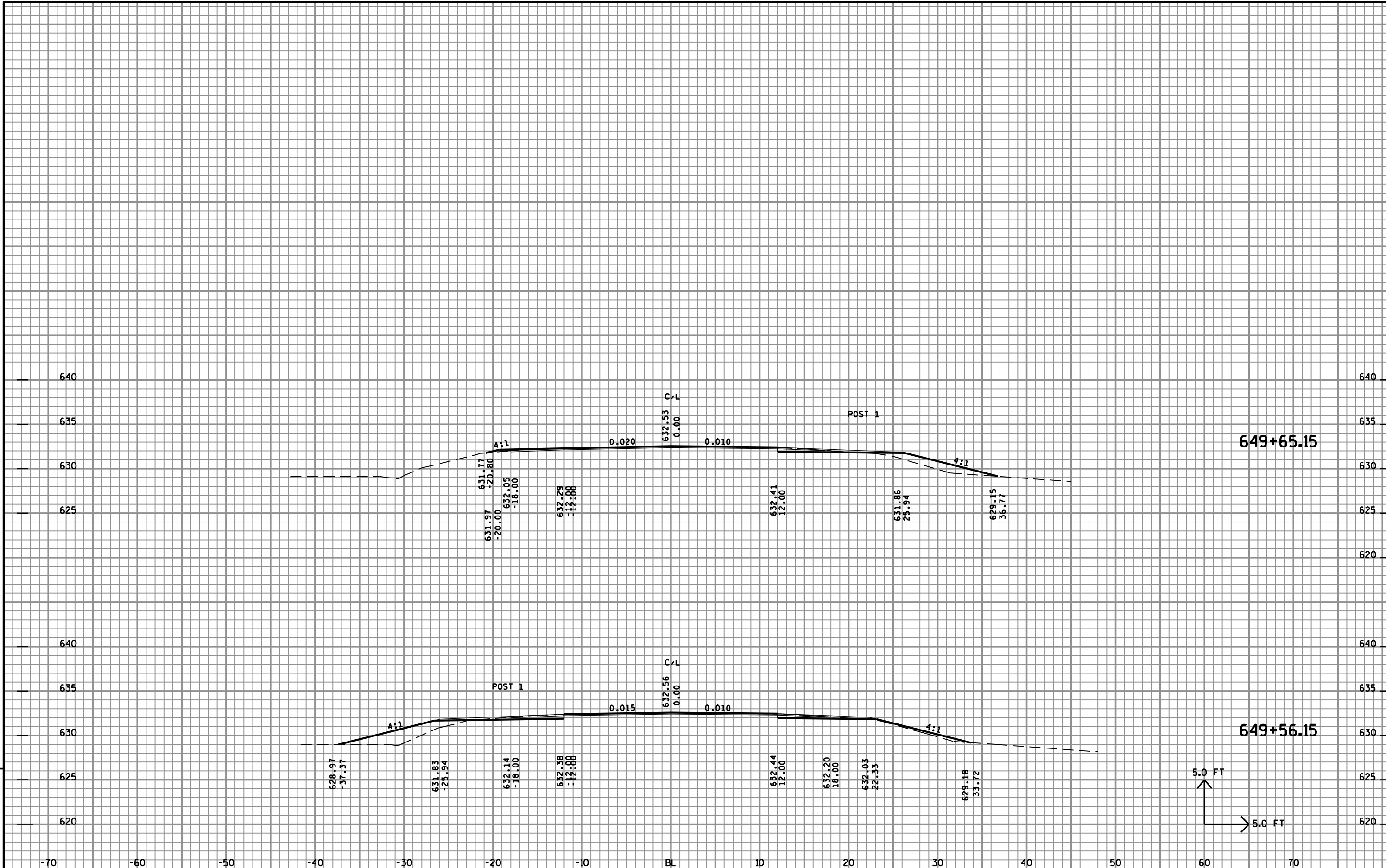
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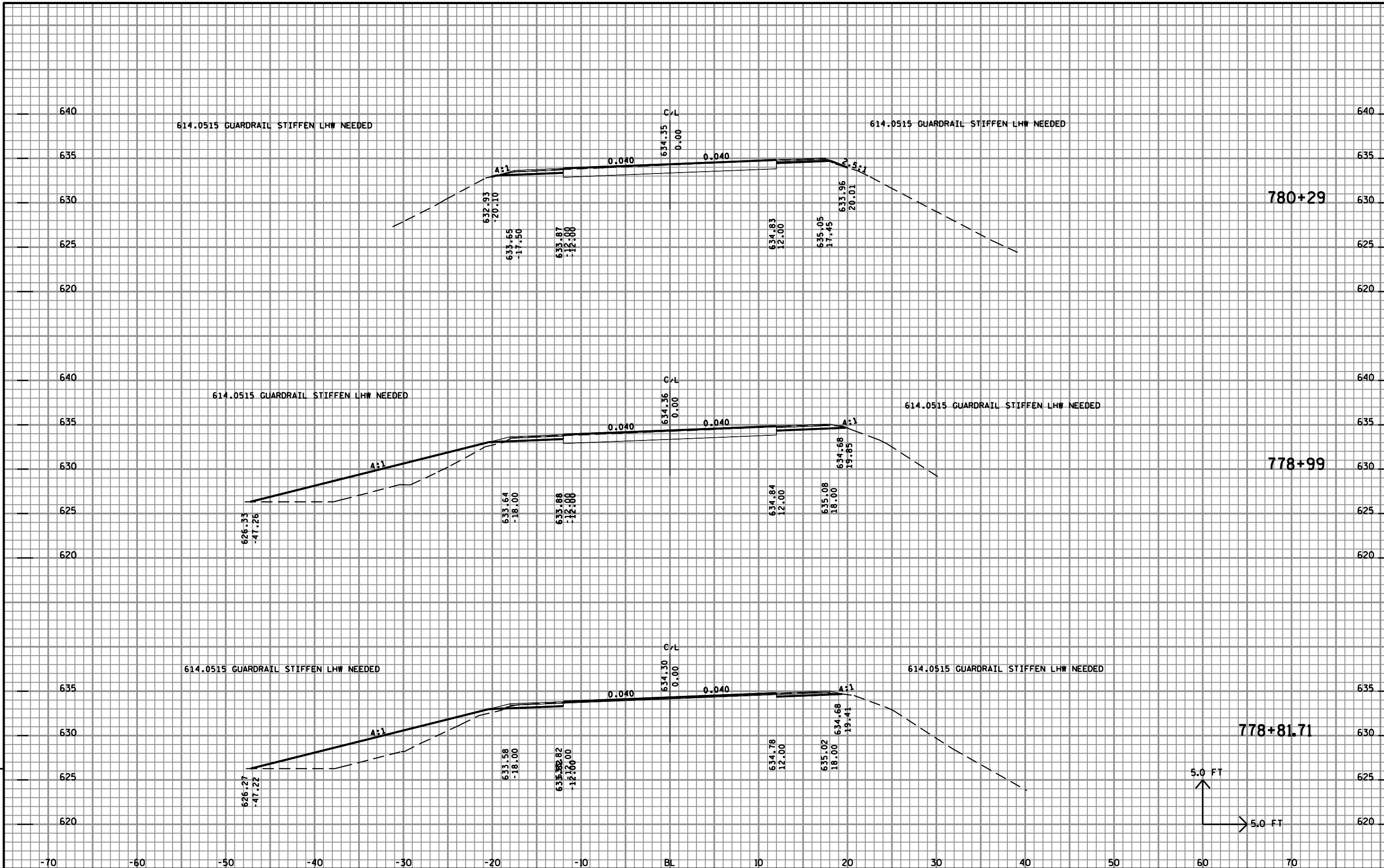
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PLOT BY : dotwov

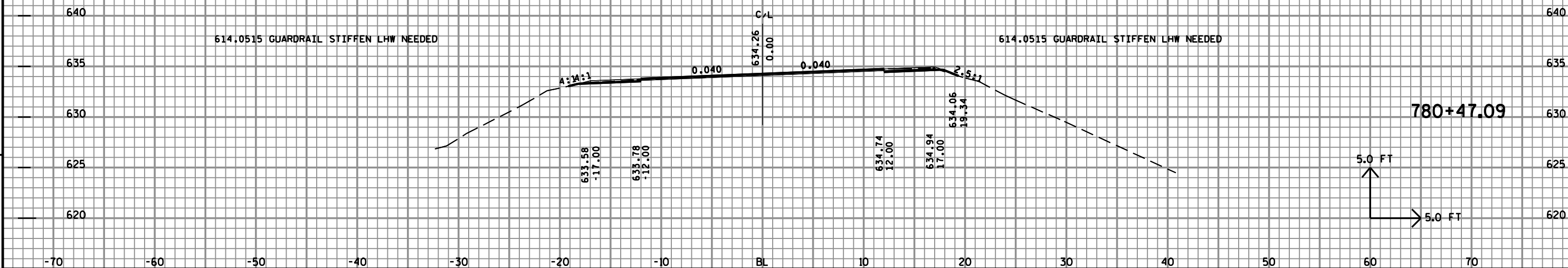
PLOT NAME :

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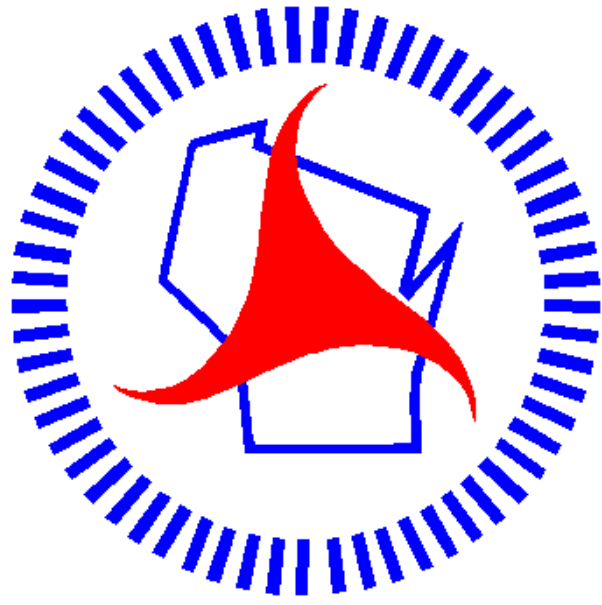


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Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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