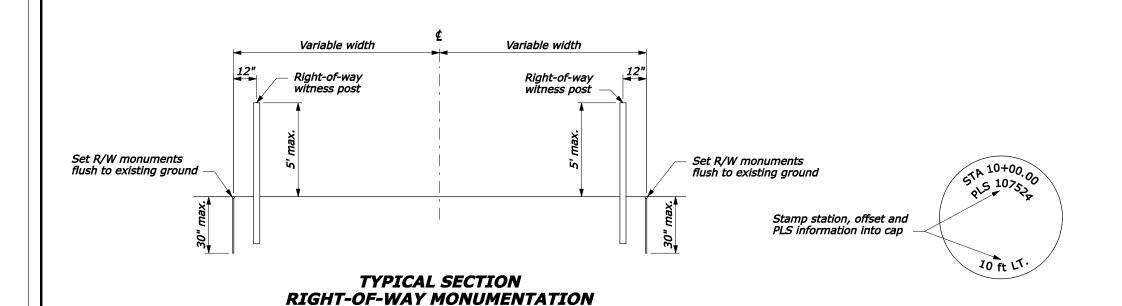
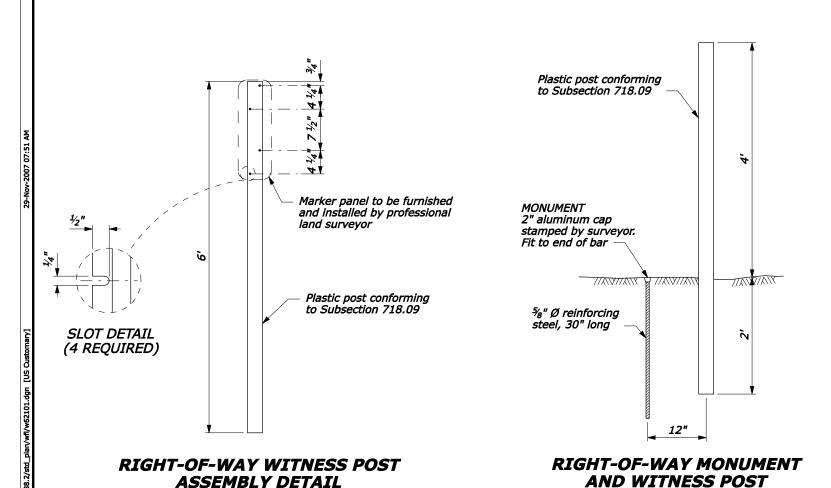


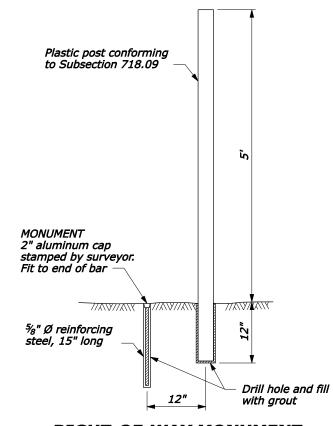
NOTE:

- 1. Right-of-Way Witness Post:
 Set a 6 foot long flexible plastic post. Right-of-Way
 witness posts should be brown, green or other suitable colors
 to match surroundings. Attach a "Survey Marker Witness"
 plaque to the post. Station, offset and PLS date of survey
 should be permanently attached to the front of the post facing
 the designed alignment.
- 2. Witness post to be used when Right-of-Way witness post assembly is required.
- 3. Set monuments using a professional land surveyor according to the requirements of the state code.
- 4. Station and distances based on Right-of-Way centerline.
- Install markers so that the center of the cap is not more than ½" from the point established.



EARTH INSTALLATION





CAP DETAIL

RIGHT-OF-WAY MONUMENT AND WITNESS POST SOLID ROCK INSTALLATION

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

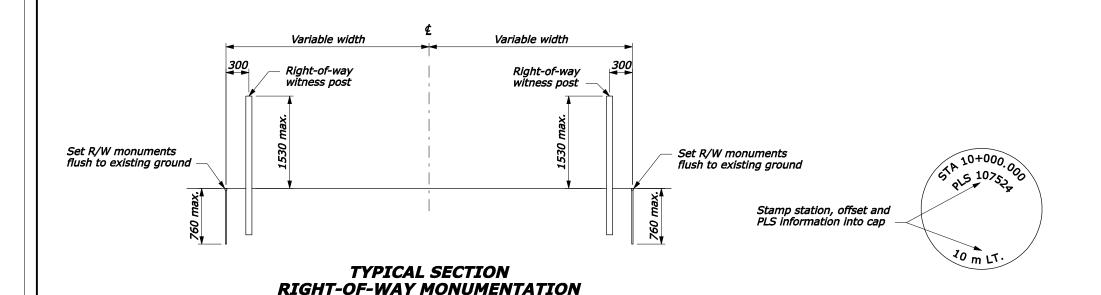
U.S. CUSTOMARY DETAIL

RIGHT-OF-WAY MONUMENTATION

DETAIL APPROVED FOR USE 5/2003

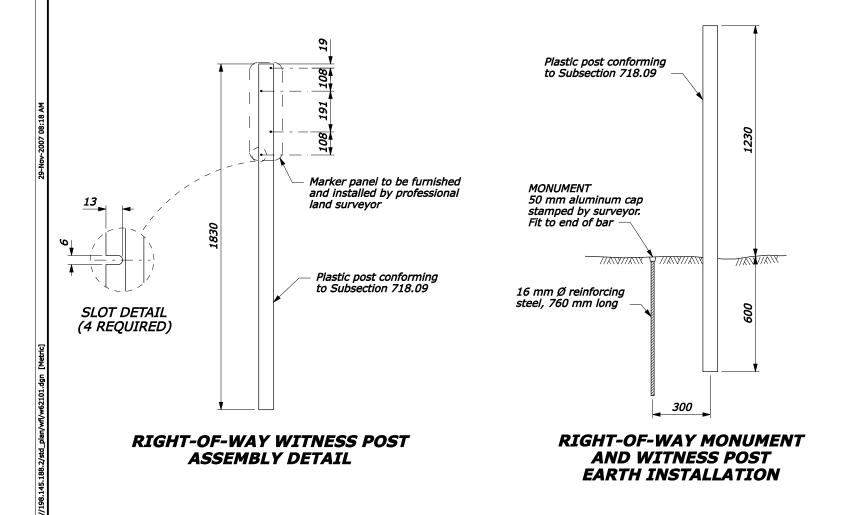
REVISED: 12/2006 11/2007

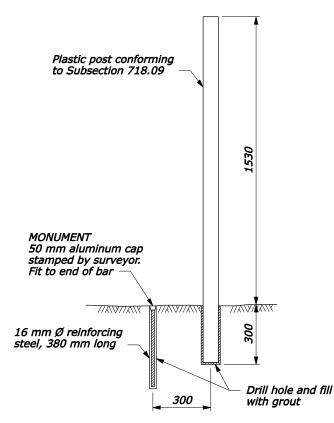
DETAIL W621-1



NOTE:

- 1. Right-of-Way Witness Post:
 Set a 1830 mm long flexible plastic post. Right-of-Way
 witness posts should be brown, green or other suitable colors
 to match surroundings. Attach a "Survey Marker Witness"
 plaque to the post. Station, offset and PLS date of survey
 should be permanently attached to the front of the post facing
 the designed alignment.
- 2. Witness post to be used when Right-of-Way witness post assembly is required.
- 3. Set monuments using a professional land surveyor according to the requirements of the state code.
- 4. Station and distances based on Right-of-Way centerline.
- 5. Install markers so that the center of the cap is not more than 13 mm from the point established.
- 6. Dimensions without units are millimeters.





CAP DETAIL

RIGHT-OF-WAY MONUMENT AND WITNESS POST SOLID ROCK INSTALLATION

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

METRIC DETAIL

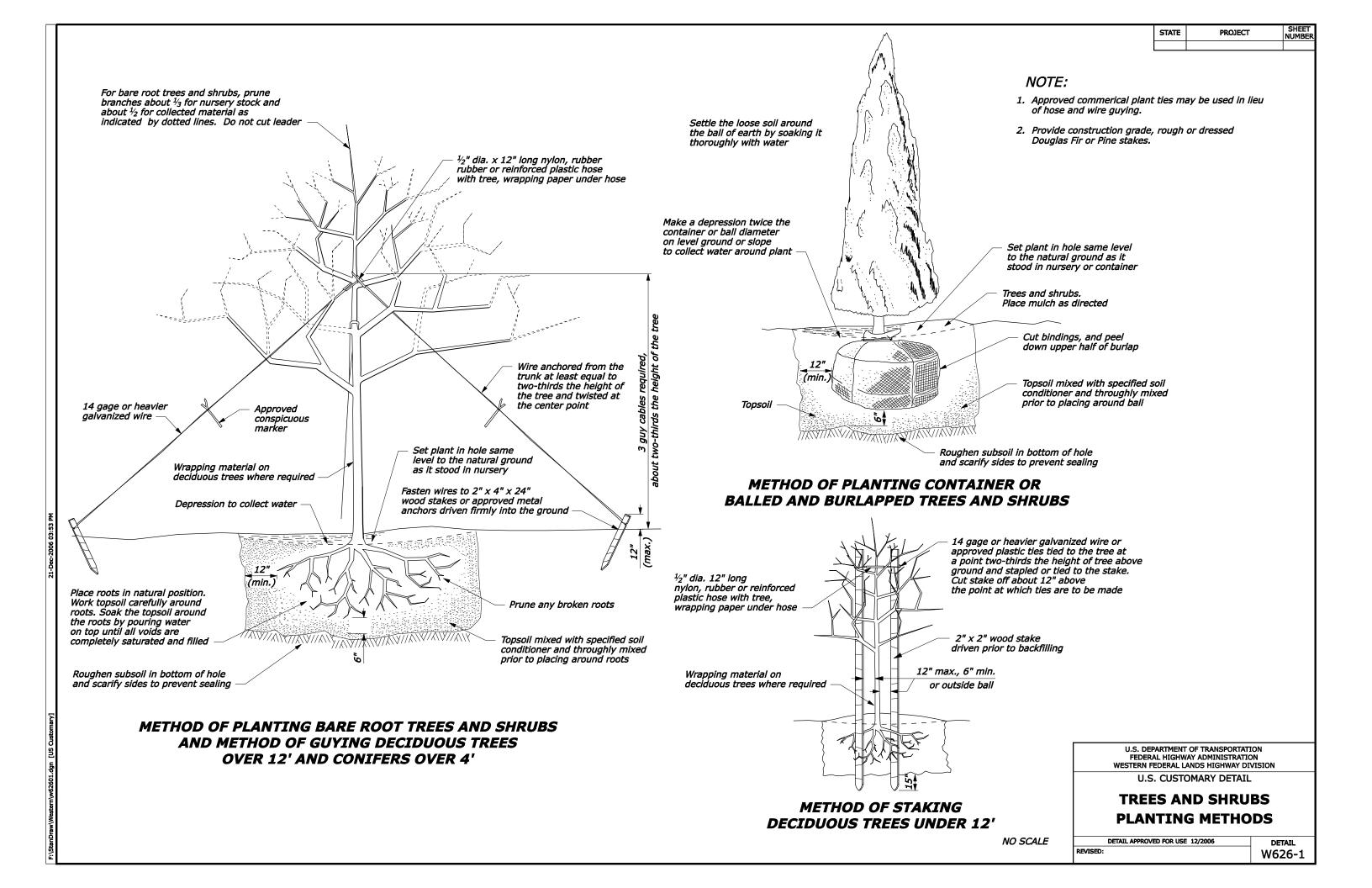
RIGHT-OF-WAY MONUMENTATION

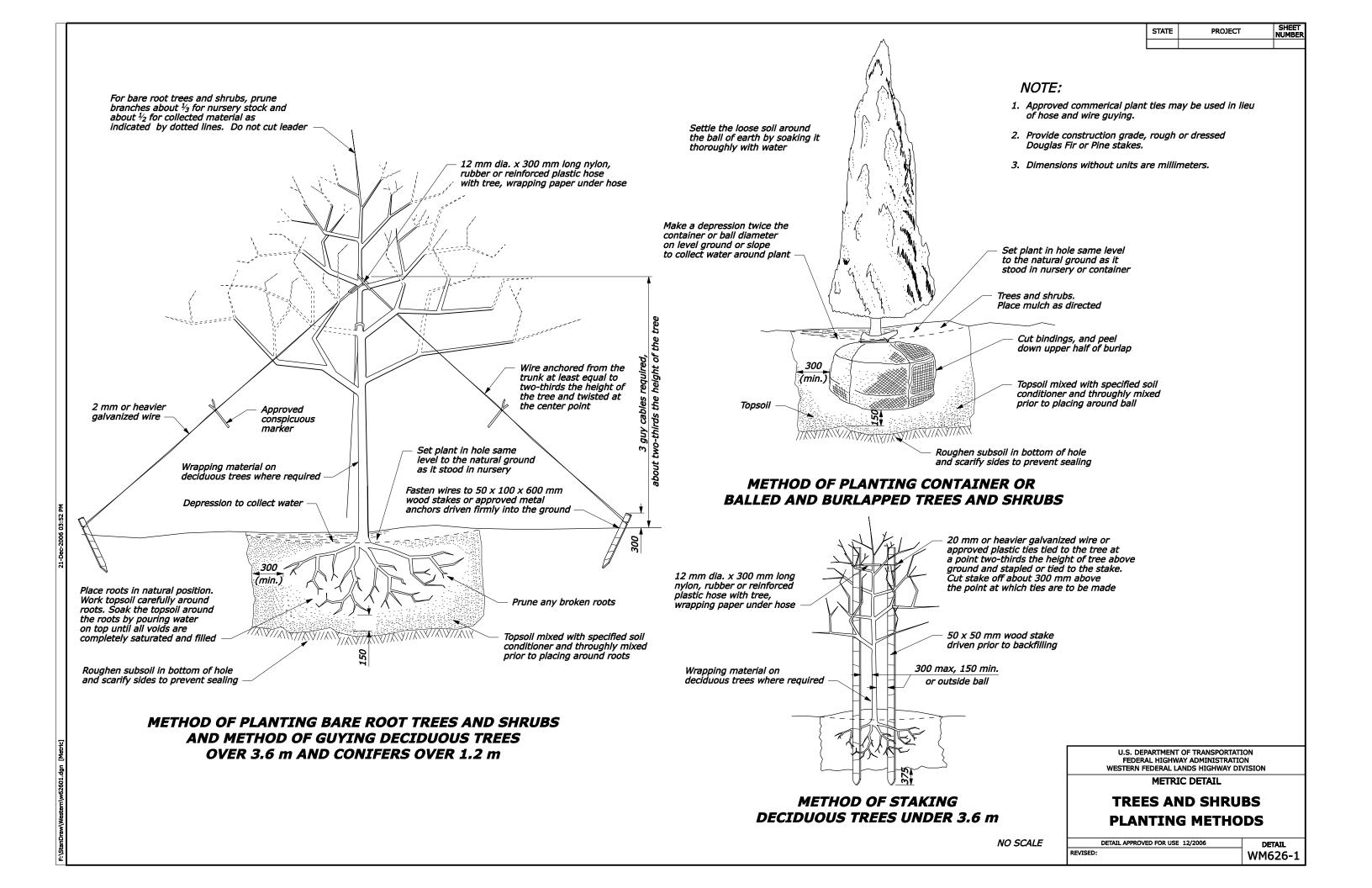
DETAIL APPROVED FOR USE 5/2003

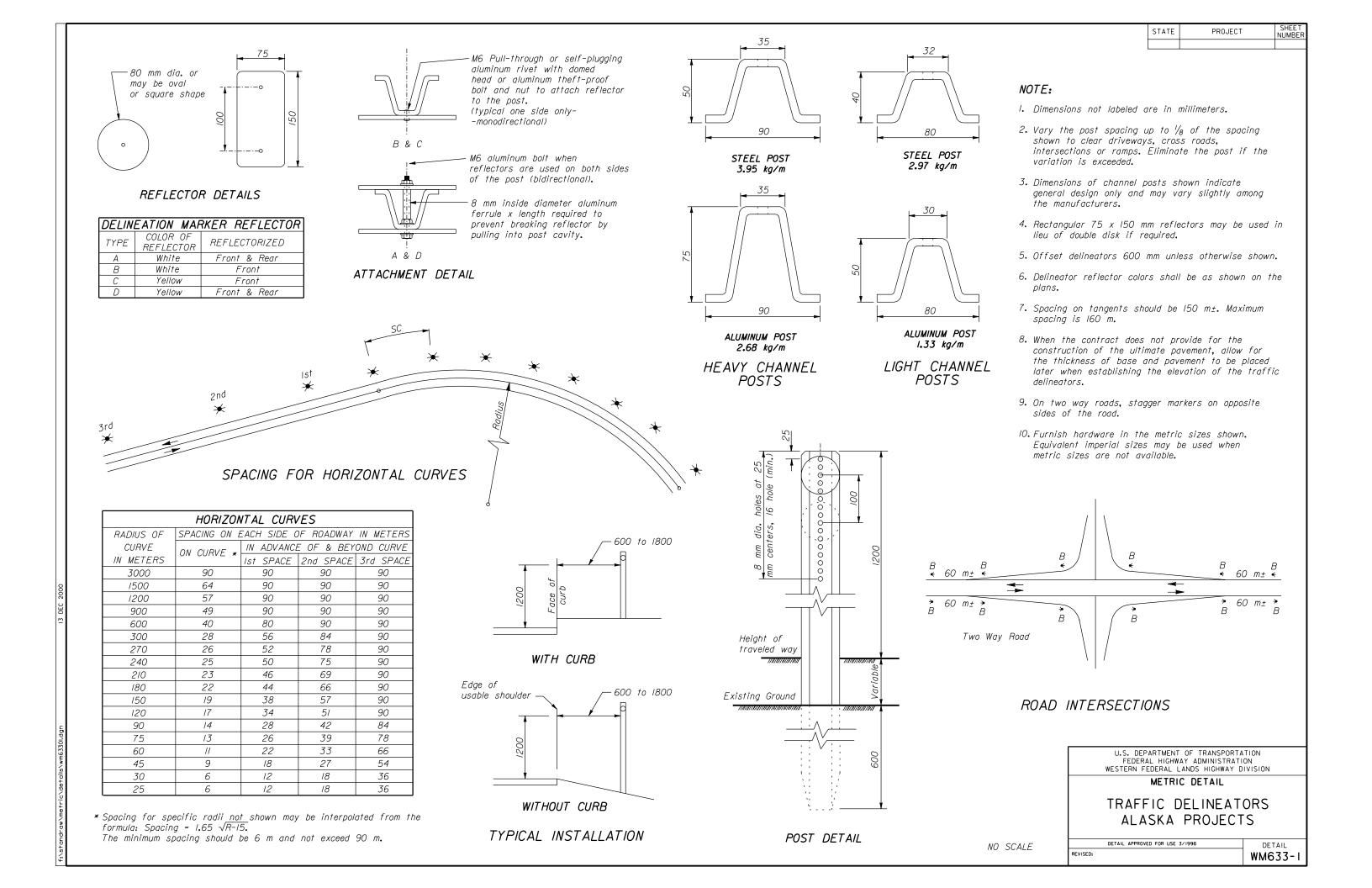
REVISED: 12/2006 11/2007

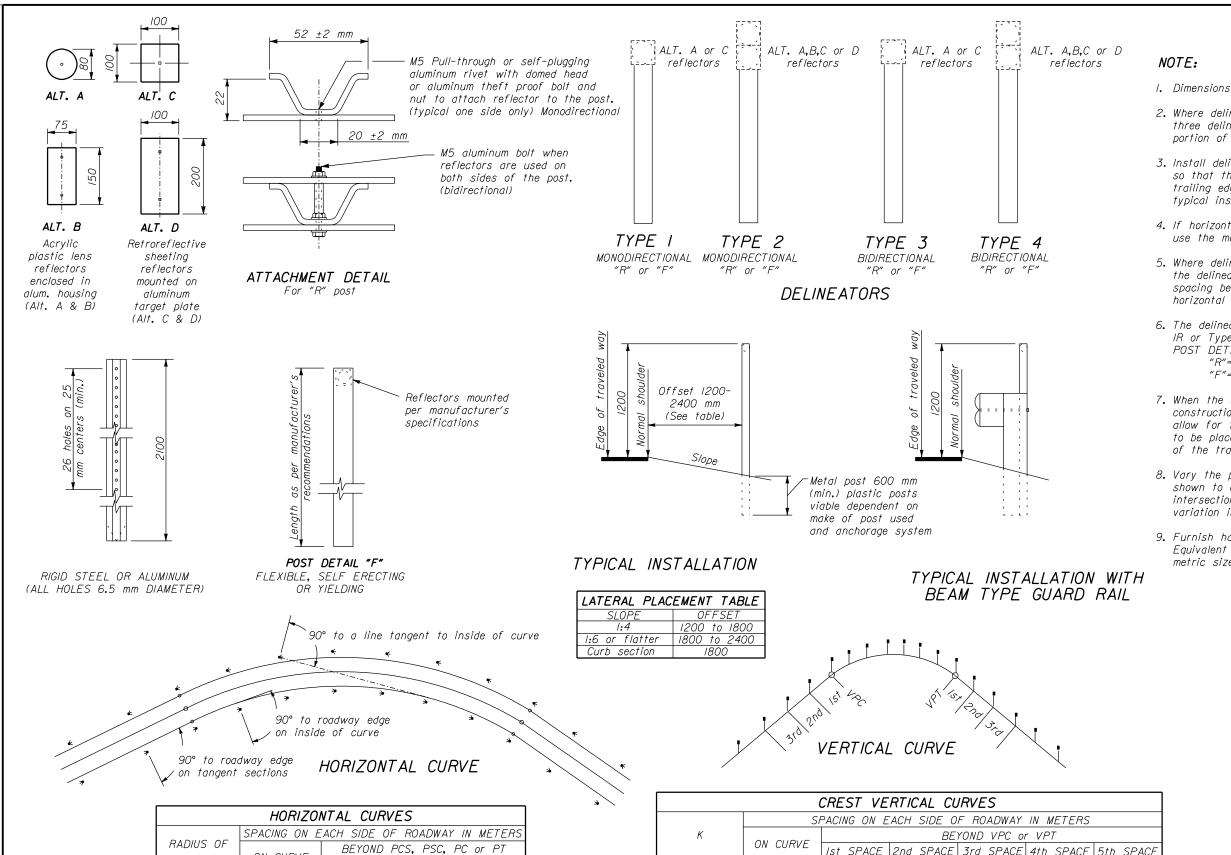
DETAIL

WM621-1









SHEE T NUMBE

PROJECT

- I. Dimensions not labeled are in millimeters.
- 2. Where delineators is used only on curves, place three delineators before and after the circular portion of the curve.

STATE

- 3. Install delineators located behind beam guardrail so that the delineator post is adjacent to the trailing edge of the nearest guardrail post. (See typical installation with beam type quardrail).
- 4. If horizontal and vertical curves are combined, use the more restrictive spacing.
- 5. Where delineators are used on tangents, space the delineators at 160 meters. Begin the tangent spacing beyond the spacing requirements for horizontal and vertical curves.
- 6. The delineators shall be designated, example: Type IR or Type IF, etc. POST DETAIL:

"R"= Rigid steel or aluminum "F" = Flexible, self erecting or yielding.

- 7. When the contract does not provide for the construction of the ultimate pavement, allow for the thickness of base and pavement to be placed later when establishing the elevation of the traffic delineators.
- 8. Vary the post spacing up to $\frac{1}{8}$ of the spacing shown to clear driveways, cross roads, intersections or ramps. Eliminate the post if the variation is exceeded.
- 9. Furnish hardware in the metric sizes shown. Equivalent imperial sizes may be used when metric sizes are not available.

CREST VERTICAL CURVES							
	SI	PACING ON E	ACH SIDE O	F ROADWAY	IN METERS		
К	ON CUDVE		BE	YOND VPC or	r VPT		
	ON CURVE	Ist SPACE	2nd SPACE	3rd SPACE	4th SPACE	5th SPACE	
OVER - 165	160	160 160 160 160 160				160	
120 - 164	90	160 160 160 160				160	
60 - 119	60 90 160 160 160				160	160	
30 - 59	30	45	60	90	160	160	
<i>15 - 29</i>	25	<i>30 45 60 90 160</i>					
0 - 14	15	25	30	45	60	90	

ON CURVE

90

45

30

25

15

160

90

60

45

30

Ist SPACE 2nd SPACE 3rd SPACE

160

160

90

60

45

160

160

160

160

90

CURVE

>2000

450-2000

150-445

75-145

<75

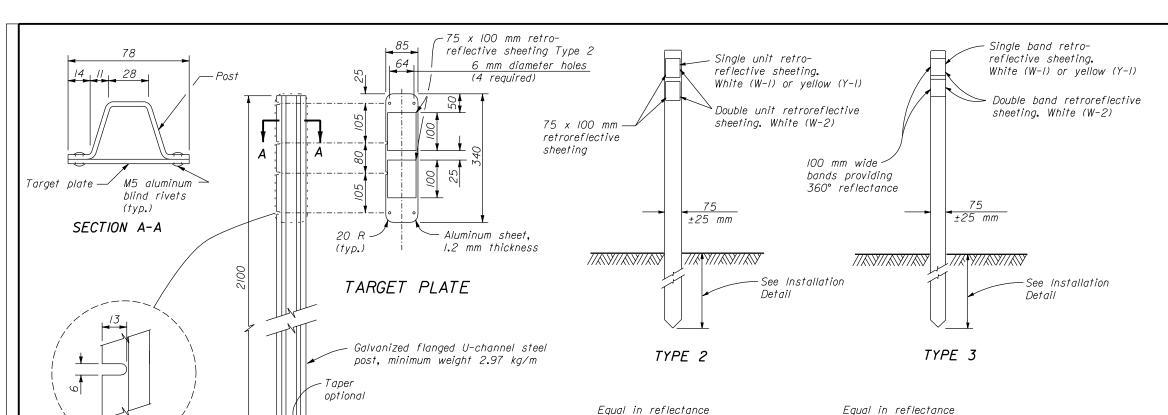
where: L=length of vertical curve in meters A=Algebraic change of grade in percent

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

METRIC DETAIL

TRAFFIC DELINEATORS IDAHO PROJECTS

	DETAIL APPROVED FOR USE 3/1996	DETAIL
REVISED:		WM633-4



to Type 2 post

plastic post

Wood post -

Flexible

ST	FFI	POST
<i></i>		1001

TYPE I

	SPACING TABLE				
REFLECTOR TYPE	HIGHWAY	SPACING EACH SIDE			
W-/	Divided	* 120 m			
W-/	Undivided	* 120 m			
W-2	See channelized and flared plans				
Y-1	See interchange ramp plans				

SLOT DETAIL

(4 REQUIRED)

	REFLECTOR DETAILS					
TYPE	COLOR OF REFLECTOR AND TARGET OR POST	NUMBER OF REFLECTORS				
W-/	White	1				
W-2	White	2				
Y-/	Yellow	1				

^{*} For variations on HORIZONTAL CURVE and CREST VERTICAL CURVES, See tables below.

CREST VERTICAL CURVES												
ALGEBRAIC			V	ERTIC	AL CU	IRVE	LENG7	TH IN	METE	ERS		
DIFFERENCE	30	60	90	120	150	180	240	300	375	450	500	600
IN GRADE (%)			SPACII	NG EA	ACH S	IDE C	F RO	ADWA	Y IN	METE.	RS	
0.5	65	90	120	120	120							
1.0	45	70	85	100	115	120						
I . 5	35	55	70	80	90	100	120	120				
2.0	30	45	60	70	80	90	100	115	120			
2 . 5		40	50	60	70	75	90	100	//5	120		
<i>3.0</i>		35	45	55	60	65	80	90	100	115	120	120
4.0		30	35	45	50	60	70	80	90	95	100	115
5 . 0			35	40	45	50	60	70	75	80	90	100
6.0			30	35	40	45	55	60	70	75	80	90
7.0			•	30	35	40	50	55	60	70	75	85
9 . 5				•	30	35	40	45	50	60	60	70
12.0						30	35	40	45	50	55	60

ALTERNATE I	ALTERNATE	2
TYPE 4 PLASTIC OR STEEL POST INS WITH BEAM TYPE GUARD		

8 mm dia. holes & fasten

with four M6 x 50 mm

lag screws

to Type I post

Flanged -

U-channel

steel post

Wood post

HORIZONTAL CURVES							
0.40,00	SPACING ON	EACH SIDE OF ROA	ADWAY IN METERS				
RADIUS OF	ON CURVE	IN ADVANCE OF	& BEYOND CURVE				
CURVE	ON COAVE	FIRST SPACE	SECOND SPACE				
2000	90	120	120				
900	65	115	120				
600	50	95	120				
450	45	80	120				
350	40	70	120				
290	35	60	105				
220-250	30	55	90				
175-200	25	50	80				
145-160	25	45	75				
100-135	20	40	65				
70-95	18	35	55				
65 & less	15	30	45				

NOTE:

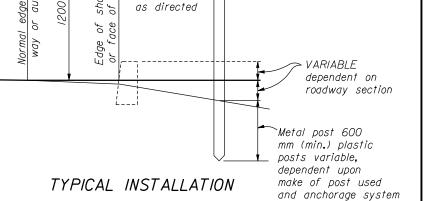
- I. Dimensions not labeled are in millimeters.
- 2. Place delineators nearly opposite each other on horizontal curves.

STATE

SHEE T NUMBE

PROJECT

- 3. Install all delineators with reflectors facing adjacent on-coming traffic.
- 4. Install delineators behind the rail at quardrail locations.
- 5. Offset delineators a minimum distance of 1200 mm in areas of heavy snow removal operations.
- 6. On roads with less than 500 ADT, use delineators only where situations such as sharp vertical or horizontal curves, or other undesirable geometrics exist.
- 7. Vary the post spacing up to $\frac{1}{8}$ of the spacing shown to clear driveways, cross roads, intersections or ramps. Eliminate the post if the variation is exceeded.
- 8. When the contract does not provide for the construction of the ultimate pavement, allow for the thickness of base and pavement to be placed later when establishing the elevation of the traffic delineators.
- 9. If horizontal and vertical curves are combined, use the more restrictive spacing.
- 10. Furnish hardware in the metric sizes shown. Equivalent imperial sizes may be used when metric sizes are not available.



600 mm norm. 1800 mm (max.)

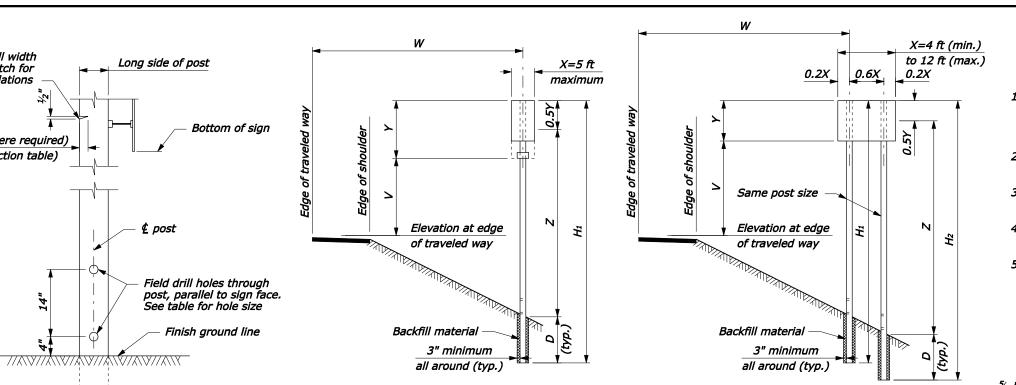
> U.S. DEPARTMENT OF TRANSPORTATION
> FEDERAL HIGHWAY ADMINISTRATION
> WESTERN FEDERAL LANDS HIGHWAY DIVISION METRIC DETAIL TRAFFIC DELINEATORS

OREGON PROJECTS

DETAIL APPROVED FOR USE 3/1996 NO SCALE REVISED:

WM633-5

DETAIL



POST DETAIL

Saw cut notch full width

of post. Omit notch for

single post installations

Notch depth (where required)

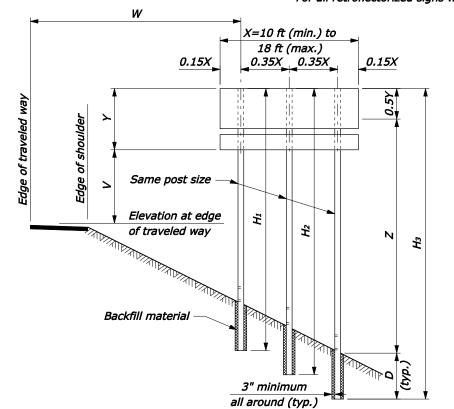
(See Post Selection table)



SINGLE POST SIGNS

SIGN INSTALLATION ANGLE

For all retroflectorized signs where W > 25'

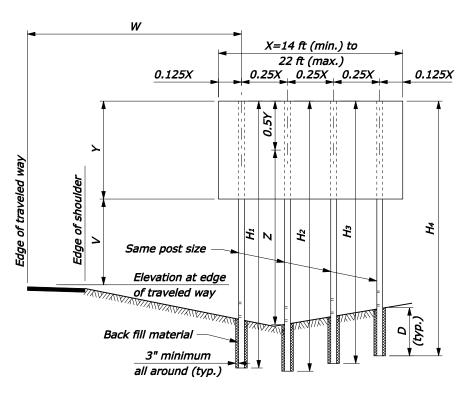


THREE POST SIGNS

MINIMUM DISTANCE TO SIGN						
Location	Lateral Offset (W)	Mounting Height (V)				
Rural Districts	6 ft	5 ft				
Business or Residence Districts	2 ft from curb	7 ft				

TWO POST SIGNS

V may be reduced by 1 foot in rural districts for a secondary sign mounted below another sign.



FOUR POST SIGNS

NOTE:

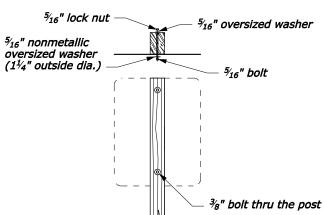
1. Traffic barrier protection is required for all posts larger than 6" x 8" when located within the clear zone or if the post is vulnerable to being struck when placed outside the clear zone.

STATE

SHEET

PROJECT

- 2. H1 thru H4 indicate overall post length. Select post lengths to fit field conditions.
- 3. D is the minimum post embedment depth for average soil conditions. See Wood Post Selection Table below.
- 4. Z is the height from ground line to mid-height of sign at the longest post.
- For the purpose of post selection X and Y are as follows:
 Single sign, or back to back signs: X and Y are the overall dimensions of the signs.
 - Multiple sign installations: \tilde{X} and Y are the dimensions of a rectangle enclosing all the signs.



TYPICAL MOUNTING FOR SIGNS WITHOUT ANGLES

WO	WOOD POST SELECTION TABLE					
POST	N	<i>JMBER</i>	OF POS	TS		Notch
SIZE	1	2	3	4	D	depth and hole
(inch)	Produ	uct of X	-Y-Z in	CUFT		diameter
4 x 4	80	155	235	310	3'-0"	-
4 x 6	180	385	545	725	4'-0"	13/4"
6 x 6	235	475	710	950	4'-0"	13/4"
6 x 8	300	850	1280	1700	4'-0"	2½"
6 x 10	385	1180	1170	2360	5'-0"	-
8 x 10	<i>575</i>	1610	2410	3215	5'-0"	-
8 x 12	775	2310	3465	4620	6'-0"	-

Values shown are the maximum permitted. If the product of XYZ exceeds the limit for the largest post, use steel post installation.

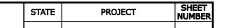
REVISED:

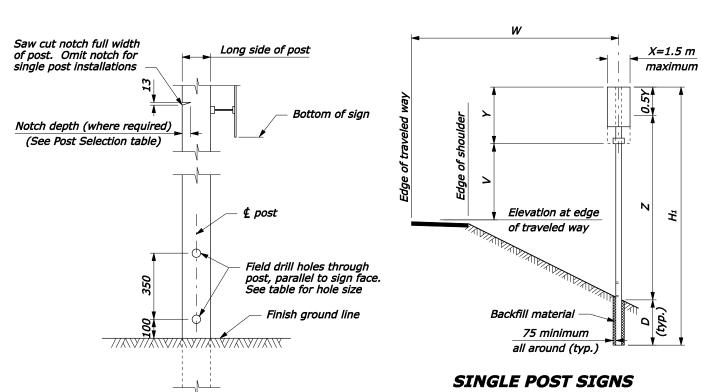
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

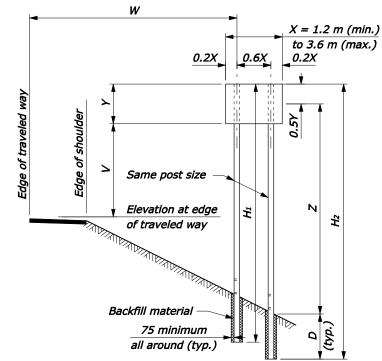
U.S. CUSTOMARY DETAIL

PERMANENT SIGN INSTALLATION WOOD POSTS

DETAIL APPROVED FOR USE/	DETAIL
2/1998	W633-7
T: 1/2007	11000





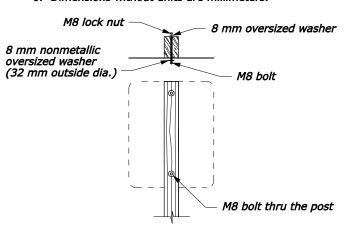


TWO POST SIGNS

1. Traffic barrier protection is required for all posts larger than 150 x 200 mm when located within the clear zone or if the post is vulnerable to being struck when placed outside the clear zone.

NOTE:

- 2. H1 thru H4 indicate overall post length. Select post lengths to fit field conditions.
- 3. D is the minimum post embedment depth for average soil conditions. See Wood Post Selection Table below.
- 4. Z is the height from ground line to mid-height of sign at the longest post.
- 5. For the purpose of post selection X and Y are as follows:
 - Single sign, or back to back signs: X and Y are the overall dimensions of the signs.
 - Multiple sign installations: X and Y are the dimensions of a rectangle enclosing all the signs.
- 6. Dimensions without units are millimeters.



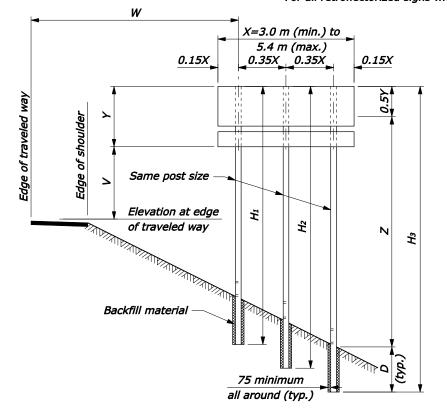
SIGN INSTALLATION ANGLE

Direction of traffic flow

For all retroflectorized signs where W > 7.5 m

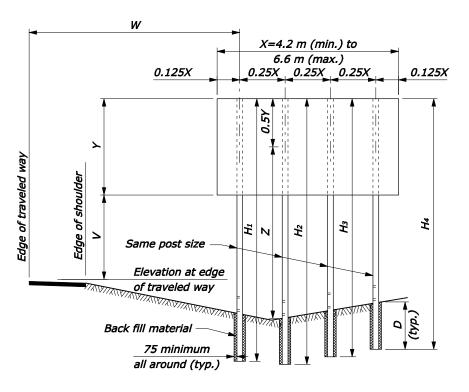
MINIMUM DISTANCE TO SIGN							
Lateral Mounting Location Offset (W) Height (V)							
Rural Districts	1.8 m	1.5 m					
Business or Residence Districts	0.6 m from curb	2.1 m					

V may be reduced by 0.3 m in rural districts for a secondary sign mounted below another sign.



THREE POST SIGNS

POST DETAIL



FOUR POST SIGNS

TYPICAL MOUNTING FOR SIGNS WITHOUT ANGLES

WOOD POST SELECTION TABLE									
POST	NL	<i>JMBER</i>	OF POS	TS		Notch			
SIZE	1	2	3	4	D	depth and hole			
(mm)	Pro	(m)	diameter						
100 x 100	2.2	4.3	6.6	18.7	0.9	-			
100 x 150	5.0	10.8	15.3	20.3	1.2	45 mm			
150 x 150	6.6	13.3	19.9	26.6	1.2	45 mm			
150 x 200	8.4	23.8	35.8	47.6	1.2	65 mm			
150 x 250	10.8	33.0	49.6	66.1	1.5	-			
200 x 250	16.1	45.1	67.5	90.0	1.5	-			
200 x 300	21.7	64.7	97.0	129.4	1.8	-			

Values shown are the maximum permitted. If the product of XYZ exceeds the limit for the largest post, use steel post installation.

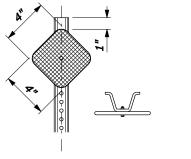
> U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
> WESTERN FEDERAL LANDS HIGHWAY DIVISION

> > METRIC DETAIL

PERMANENT SIGN INSTALLATION WOOD POSTS

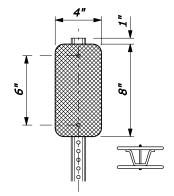
DETAIL APPROVED FOR USE/	DETAIL
REVISED: 2/1998 3/1999 DRAFT: 10/2007	WM633-





DESIGN A (WHITE)

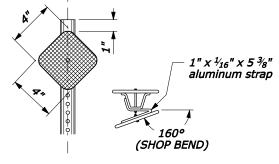
Use for delineation on tangents and on curves with R > 1500'.



DESIGN D

(YELLOW)

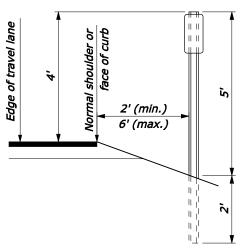
Use at approaches with Stop or Yield sians.



DESIGN C

(WHITE)

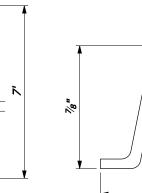
Use on curves with R ≤ 575'



TYPICAL INSTALLATION

TYPICAL INSTALLATION WITH BEAM TYPE GUARD RAIL

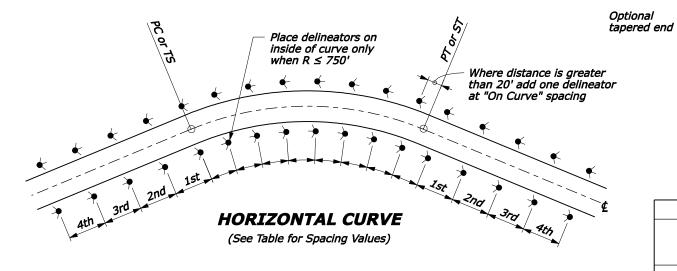
13/16" ± 1/16"

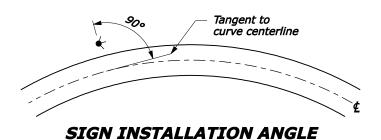


DESIGN F

(WHITE)

Use for curves with R > 575' and $R \le 1500'$.





$2\frac{1}{16}$ " $\pm \frac{1}{16}$ " **DELINEATOR POST DETAILS**

Rigid Steel or Aluminum

HORIZONTAL CURVES								
RADIUS (ft)	SPACING ON CURVE (ft)	SPACING IN ADVANCE OF & BEYOND CURVE (ft) 1st SPACE 2nd SPACE 3rd SPACE 4th SPACE						
≥ 5700	300	400	400	400	400			
3000 to < 5700	225	400	400	400	400			
2000 to < 3000	160	320	400	400	400			
1500 to < 2000	130	260	400	400	400			
1000 to < 1500	110	220	330	400	400			
700 to < 1000	90	185	275	400	400			
500 to < 700	<i>75</i>	150	230	300	400			
300 to < 500	60	125	185	300	400			
< 300	45	90	140	<i>275</i>	400			

NOTE:

- 1. When the contract does not include the final surfacing, allow for the thickness of the final pavement structure when establishing the elevation of the traffic delineators.
- 2. Place delineators at a constant clearance distance from the edge of pavement except where guardrail or other obstructions interfere. Align delineators with the inside edge of obstruction. Install delineators located behind beam guardrail so that the delineator post is adjacent to the trailingedge of the nearest guard rail post. (See typical installation with beam type quard rail).
- 3. When a delineator falls within a cross road or approach, the delineator may be moved in either direction a distance not to exceed one quarter of the normal spacing. Eliminate the post if this allowance is exceeded.
- 4. Mount delineators on metal posts with 3/16" cadmium plated bolt(s). Drill or punch a minimum of twelve 3_8 " diameter holes on 1-inch centers from the top of the post. $\frac{3}{8}$ " square holes may be used with large-headed bolt or an appropriate washer. Jam threads after tightening the nut to prevent removal.
- 5. All delineator reflectors have 3/4" corner radii.
- 6. Manufacture posts from flanged U-channel sections of steel meeting the requirements of ASTM A 36 and weighing not less than 1.25 pounds per foot or aluminum meeting the meeting the requirements of ASTM B 221, Alloy 6061-T6, with a minimum thickness of 0.125 inches. After fabrication galvanize steel posts in accordance with ASTM A 123.
- 7. When a route has a current ADT of 900 or greater, continuously delineate the roadway along the shoulder by means of post mounted reflectors. Spacing on tangent sections is 400 feet.

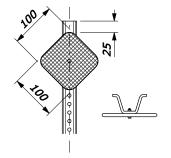
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

MONTANA DELINEATORS

DETAIL APPROVED FOR USE 11/2006 DETAIL REVISED: 1/2008 W633-60

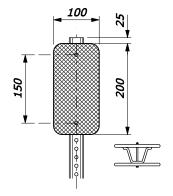




DESIGN A

(WHITE)

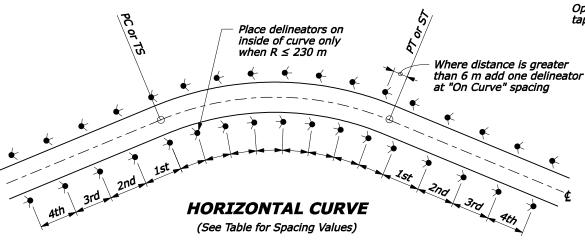
Use for delineation on tangents and on curves with R > 450 m.

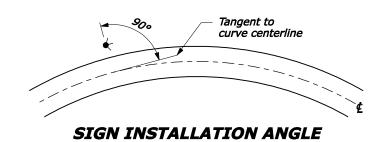


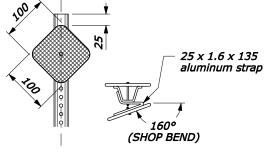
DESIGN D

(YELLOW)

Use at approaches with Stop or Yield signs.

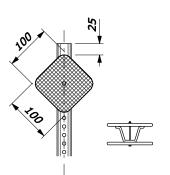






DESIGN C (WHITE)

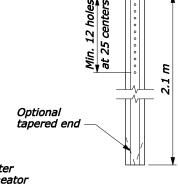
Use on curves with R ≤ 170 m



DESIGN F

(WHITE)

Use for curves with R > 170 m and $R \le 450$ m.

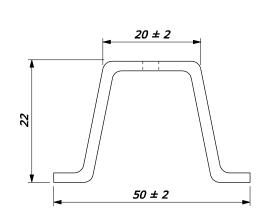


ð

600 (min.)

1800 (max.)

TYPICAL INSTALLATION



TYPICAL INSTALLATION WITH BEAM TYPE GUARD RAIL

Шţ

11.1

DELINEATOR POST DETAILS

Rigid Steel or Aluminum

HORIZONTAL CURVES									
RADIUS	SPACING ON CURVE	SPACING IN ADVANCE OF & BEYOND CURV (m)							
(m)	(m)	1st SPACE	2nd SPACE	3rd SPACE	4th SPACE				
≥ 1750	90	120	120	120	120				
900 to < 1750	65	120	120	120	120				
600 to < 900	50	95	120	120	120				
450 to < 600	40	<i>75</i>	120	120	120				
300 to < 450	35	65	100	120	120				
200 to < 300	25	<i>55</i>	80	120	120				
150 to <200	20	45	70	90	120				
100 to < 150	20	35	55	90	120				
< 100	15	25	40	80	120				

NOTE:

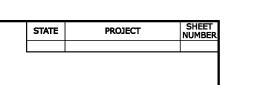
- When the contract does not include the final surfacing, allow for the thickness of the final pavement structure when establishing the elevation of the traffic delineators.
- 2. Place delineators at a constant clearance distance from the edge of pavement except where guardrail or other obstructions interfere. Align delineators with the inside edge of obstruction. Install delineators located behind beam guardrail so that the delineator post is adjacent to the trailingedge of the nearest guard rail post. (See typical installation with beam type guard rail).
- 3. When a delineator falls within a cross road or approach, the delineator may be moved in either direction a distance not to exceed one quarter of the normal spacing. Eliminate the post if this allowance is exceeded.
- 4. Mount delineators on metal posts with M5 cadmium plated bolt(s). Drill or punch a minimum of twelve 9.5 mm diameter holes on 25 mm centers from the top of the post. 9.5 mm square holes may be used with large-headed bolt or an appropriate washer. Jam threads after tightening the nut to prevent removal.
- 5. All delineator reflectors have 20 mm corner radii.
- 6. Manufacture posts from flanged U-channel sections of steel meeting the requirements of ASTM A 36 and weighing not less than 1.86 kilograms per meter or aluminum meeting the requirements of ASTM B 221, Alloy 6061-T6, with a minimum thickness of 3.2 mm. After fabrication galvanize steel posts in accordance with ASTM A 123.
- 7. When a route has a current ADT of 900 or greater, continuously delineate the roadway along the shoulder by means of post mounted reflectors. Spacing on tangent sections is 120 meters
- 8. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
- 9. Dimensions without units are millimeters.

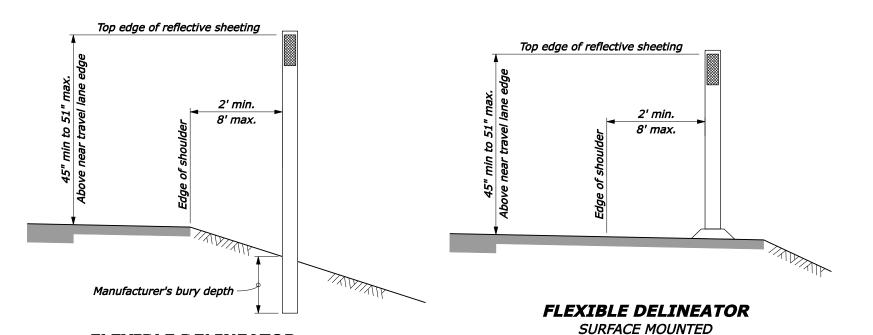
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

METRIC DETAIL

MONTANA DELINEATORS

	DETAIL APPROVED FOR USE 11/2006	DETAIL
REVISED:	1/2008	WM633-60

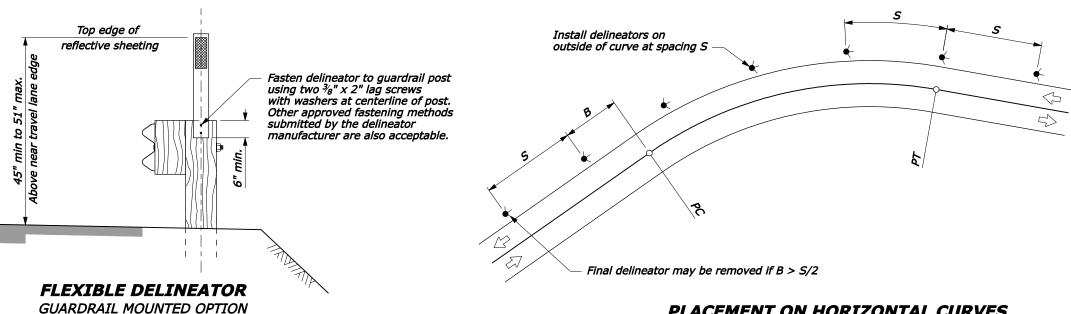




NOTE:

- 1. When a delineator falls within a cross road or approach, the delineator may be moved in either direction a distance not to exceed one quarter of the normal spacing. Eliminate the delineator if this allowance is exceeded.
- 2. Place delineators 2 feet from the edge of design shoulder unless otherwise specified.
- 3. Install delineators behind the rail at guardrail locations. Either drive the delineator in line with the guardrail posts or mount a shorter delineator onto the guardrail post as shown on this sheet.
- 4. When the contract does not provide for the construction of the ultimate pavement, allow for the thickness of base and pavement to be placed later when establishing the elevation of the traffic delineators.
- 5. Use the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) as a guide for delineation layout.

DELINEATOR SPACING



PLACEMENT	ON H	IORTZO	NTAI	CURVES

ON HORIZONTAL CURVES						
CURVE RADIUS	SPACING (S)					
(FEET)	(FEET)					
50	20					
115	25					
180	<i>35</i>					
250	40					
300	50					
400	<i>55</i>					
500	65					
600	70					
700	<i>75</i>					
800	80					
900	<i>85</i>					
1,000	90					

Spacing for a specific curve may be interpolated from the table, or calculated using the formula: Spacing = $3\sqrt{R-50}$. The minimum spacing should be 20 feet. Curve spacing should not exceed 300 feet.

"I"	3"		3"	1,"
<i>"8</i>		 White retroreflective sheeting 		
<u> </u>				<u>*</u>
FACING	⊸∕—⊢ G TRAI	FFIC	J—√— BACK SI	DF
		VE SHEETI	NG DE	TAIL

(Use only with wood guardrail posts)

FLEXIBLE DELINEATOR **GROUND MOUNTED**

so that	nitial delin it is visible eparting ti	for	50' max.			-	00' /p.		
	←	←				₁ ←	 	\leftarrow	
- Ç									<u></u>
$\overline{\Rightarrow}$		_	<u>—</u>		 		_		$\overline{\Rightarrow}$
	→	→	— —	•	<u> </u>	→	→	>	
					so that it does lelineator for a				

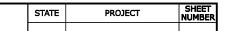
PLACEMENT AT BRIDGE APPROACHES

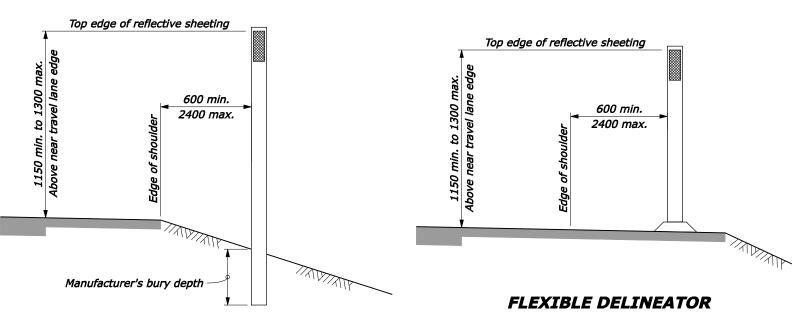
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

WASHINGTON DELINEATORS

DETAIL APPROVED FOR USE 1/2008	DETAIL
REVISED:	W633-80





FLEXIBLE DELINEATOR

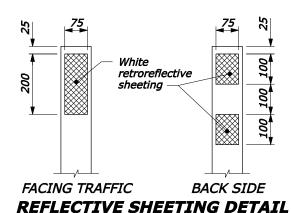
GROUND MOUNTED

Top edge of

reflective sheeting Fasten delineator to guardrail post using two M6 x 50 mm lag screws with washers at centerline of post. Other approved fastening methods submitted by the delineator

manufacturer are also acceptable.

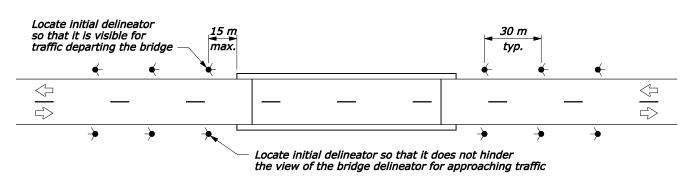
FLEXIBLE DELINEATOR GUARDRAIL MOUNTED OPTION (Use only with wood guardrail posts)



Install delineators on outside of curve at spacing S

SURFACE MOUNTED

PLACEMENT ON HORIZONTAL CURVES



Final delineator may be removed if B > S/2

PLACEMENT AT BRIDGE APPROACHES

NOTE:

- 1. When a delineator falls within a cross road or approach, the delineator may be moved in either direction a distance not to exceed one quarter of the normal spacing. Eliminate the delineator if this allowance is exceeded.
- 2. Place delineators 600 mm from the edge of design shoulder unless otherwise specified.
- 3. Install delineators behind the rail at guardrail locations. Either drive the delineator in line with the guardrail posts or mount a shorter delineator onto the guardrail post as shown on this sheet.
- 4. When the contract does not provide for the construction of the ultimate pavement, allow for the thickness of base and pavement to be placed later when establishing the elevation of the traffic delineators.
- 5. Use the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) as a guide for delineation layout.
- 6. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
- 7. Dimensions without units are millimeters.

DELINEATOR SPACING ON HORIZONTAL CURVES								
CURVE RADIUS SPACING (S)								
(m)	(m)							
15	6							
35	8							
55	11							
<i>75</i>	13							
95	15							
125	18							
155	20							
185	22							
215	24							
245	26							
<i>275</i>	27							
305	29							

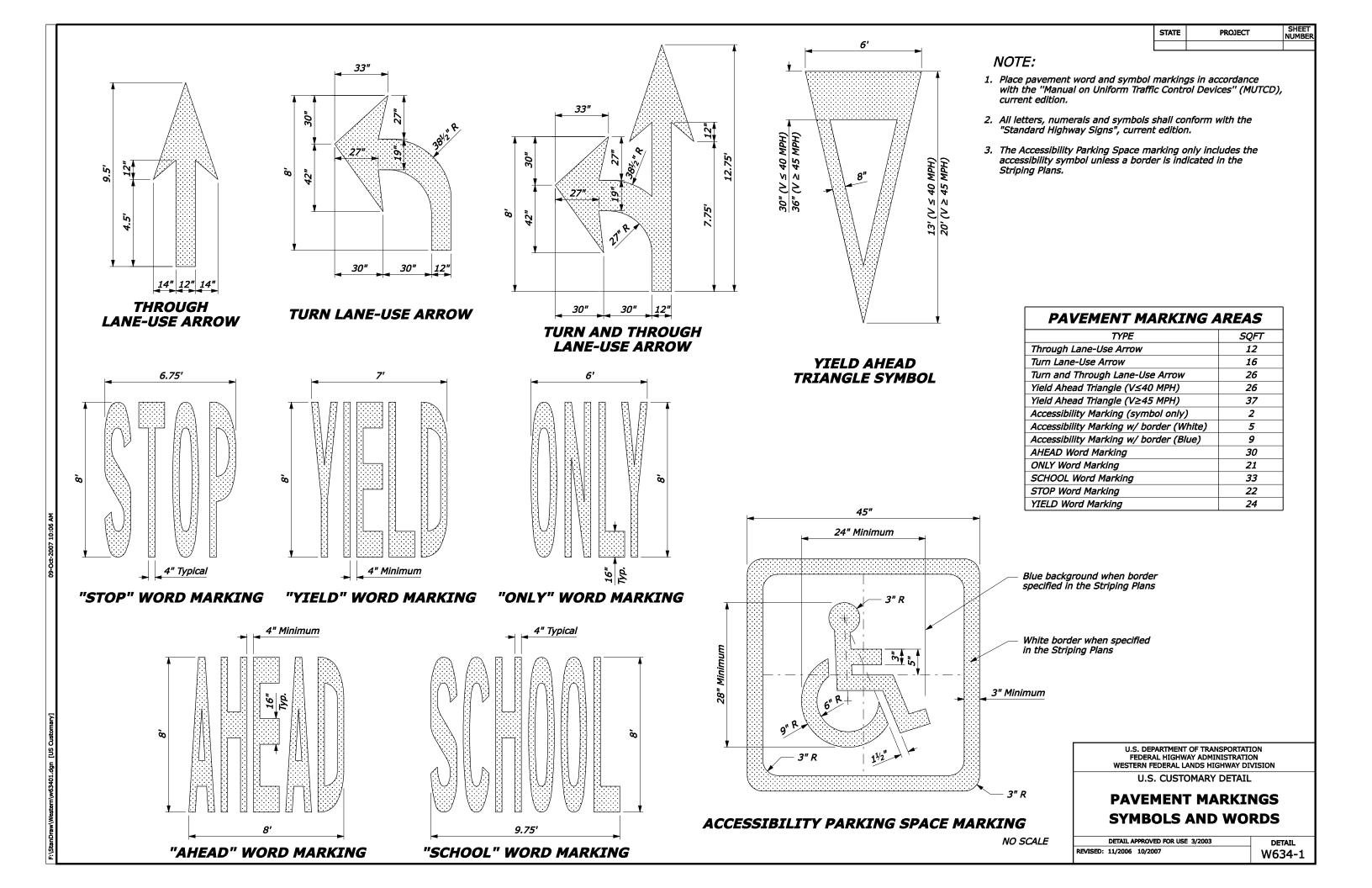
Spacing for a specific curve may be interpolated from the table, or calculated using the formula: Spacing = $1.7 \sqrt{R-15}$. The minimum spacing should be 6 meters. Curve spacing should not exceed 90 meters.

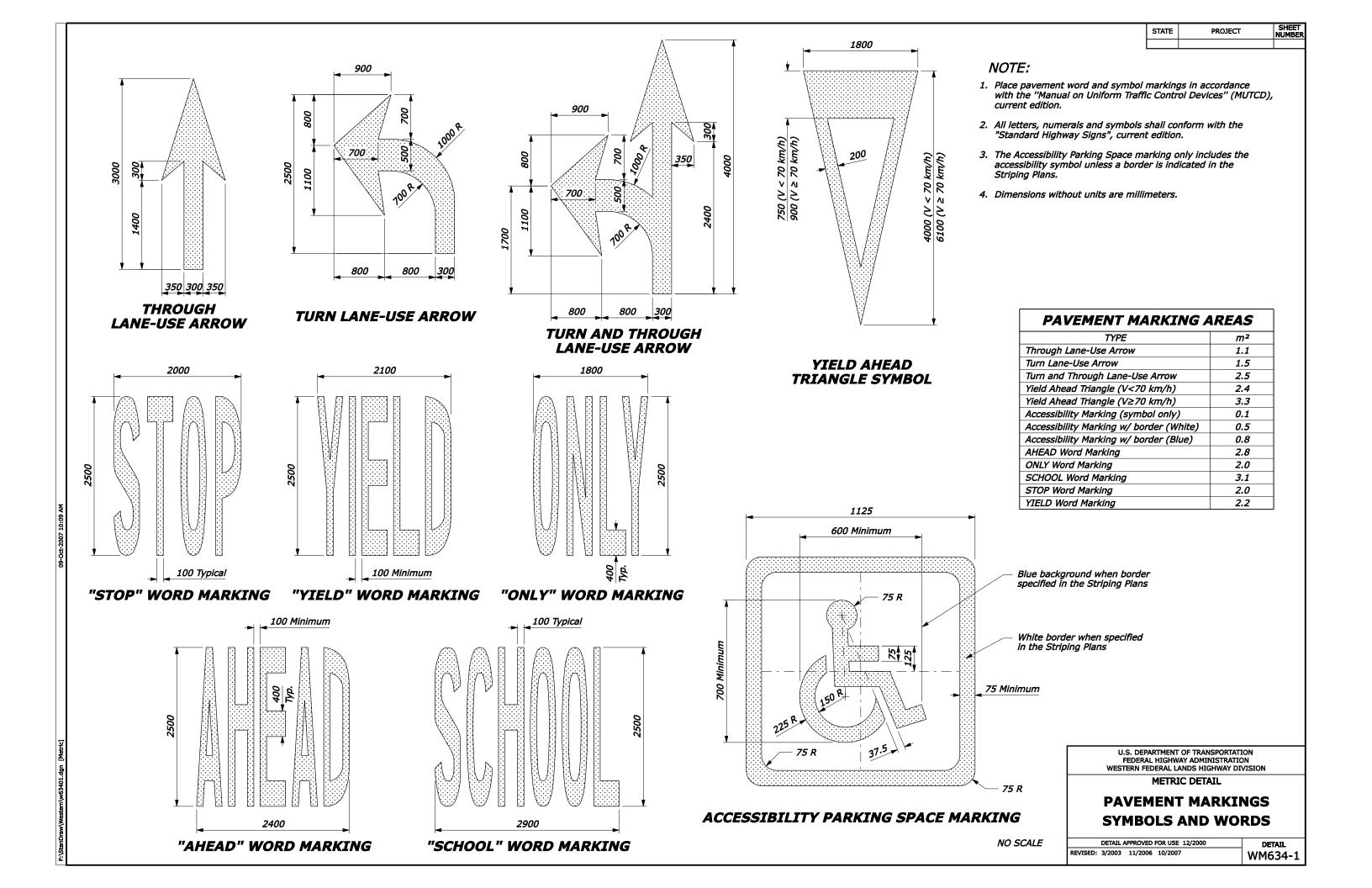
> U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
> WESTERN FEDERAL LANDS HIGHWAY DIVISION

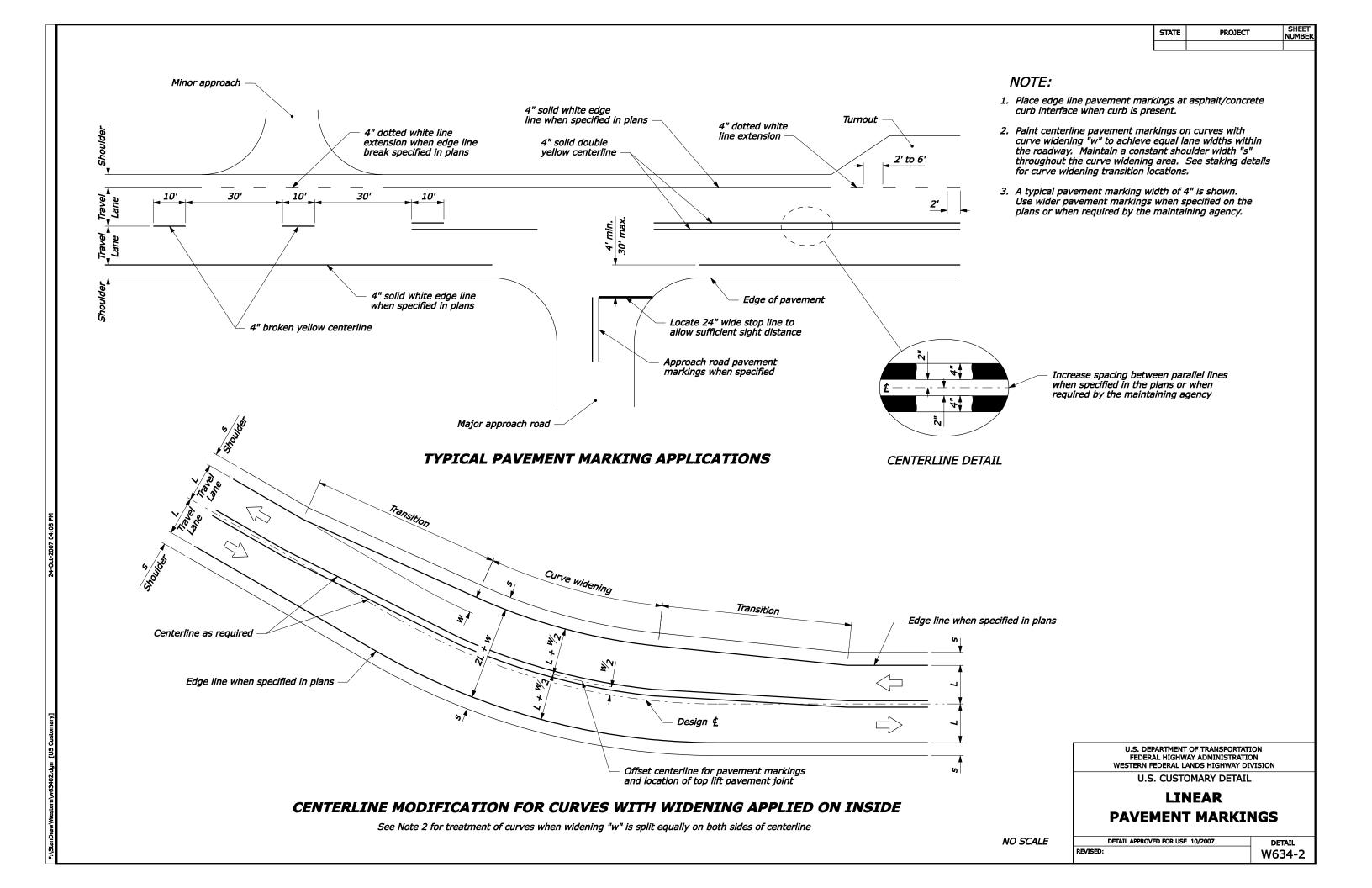
> > METRIC DETAIL

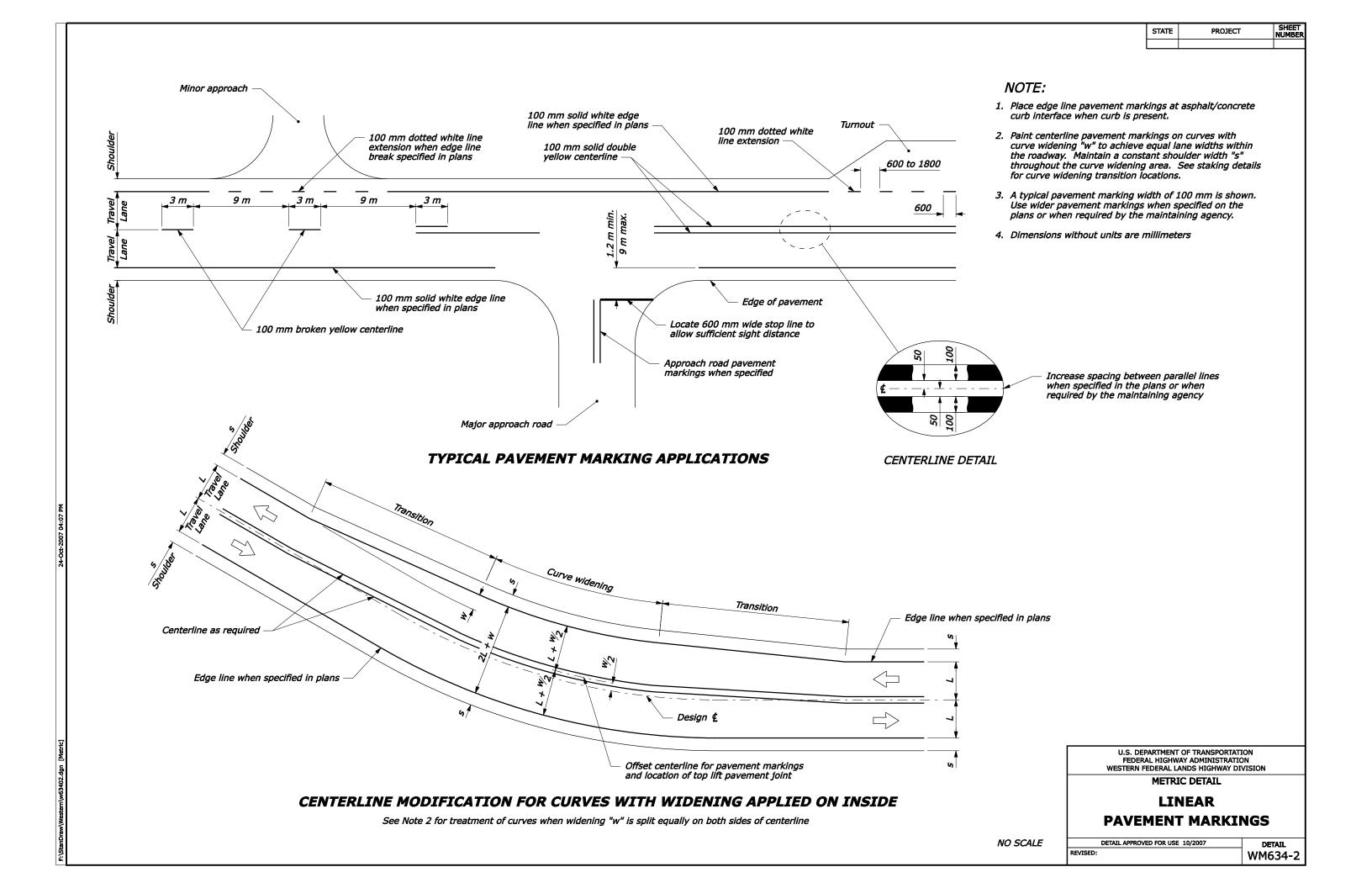
WASHINGTON DELINEATORS

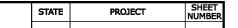
DETAIL APPROVED FOR USE 1/2008 DETAIL WM633-80

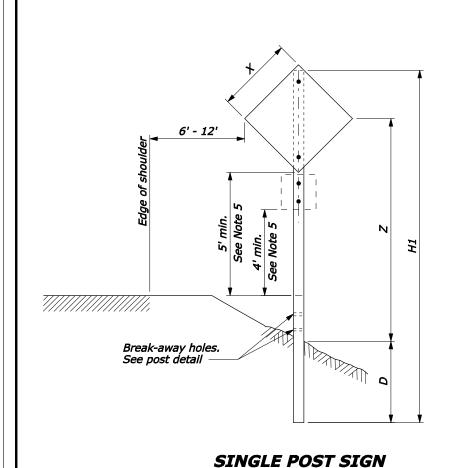


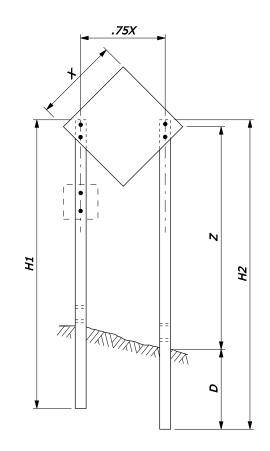




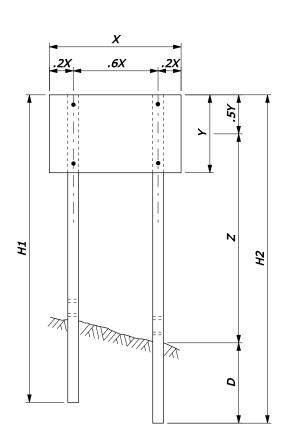






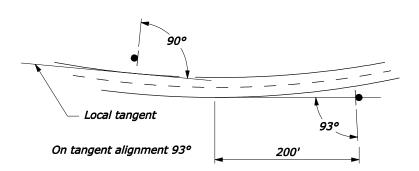


TWO POST SIGN



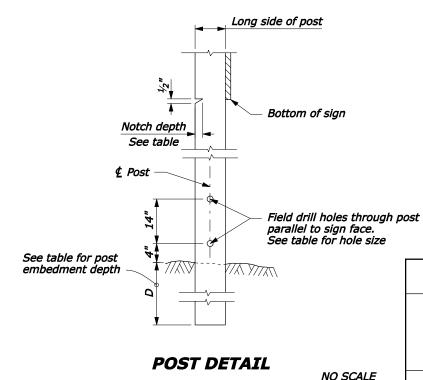
NOTE:

- 1. Attach sign panels with a minimum of $2 \frac{1}{4}$ " dia. bolts per post.
- 2. Mount signs smaller than listed on a single 4" x 4" post. For signs not shown, use next largest size.
- 3. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
- 4. D = Post embedment depth for average soil conditions.
- 5. When pedestrians are present, or in areas where the view obstructed, use 7' minimum mounting height.



SIGN INSTALLATION ANGLE

WOOD POST SELECTION TABLE											
			(GROUN	DLINE	TO CENT	ER OF SIGN I	HEIGHT (Z)			
SIGN	$X \times Y$		Z IS 10' 0	R LESS	5			Z IS GREATEI	R THAN	10'	
SHAPE		NUMBER OF POSTS	POST SIZE	D	HOLE SIZE	NOTCH DEPTH	NUMBER OF POSTS	POST SIZE	D	HOLE SIZE	NOTCH DEPTH
\Diamond	30" x 30"	1	4" x 4"	36"	0	О	1 or 2	4" x 6" 4" x 4"	48" 36"	11/2"	0
$\Diamond 00$	36" x 36"	1 or 2	4" x 6" 4" x 4"	48" 36"	1½" 0	0	1 or 2	4" x 6" 4" x 4"	48" 36"	1½" 0	0
\Diamond	48" x 48"	1	4" x 6"	48"	1½"	О	1 or 2	6" x 8" 4" x 6"	48" 48"	3" 1½"	0 1¾"
	60" x 30"	2	4" x 4"	36"	0	0	2	4" x 6"	48"	1½"	1¾"
	78" x 42"	2	4" x 6"	48"	1½"	1¾"	2	4" x 6"	48"	1½"	1¾"
	96" x 48"	2	4" x 6"	48"	11/2"	1¾"	2	6" x 8"	48"	3"	21/4"



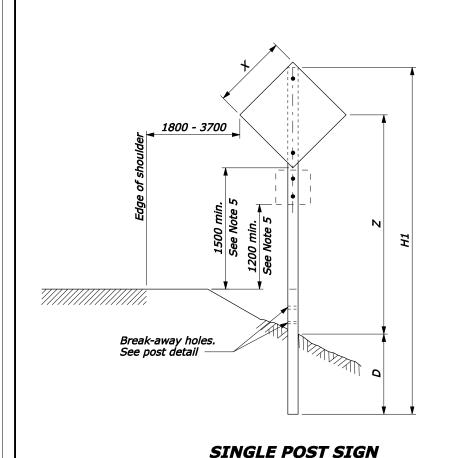
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION WESTERN FEDERAL LANDS HIGHWAY DIVISION

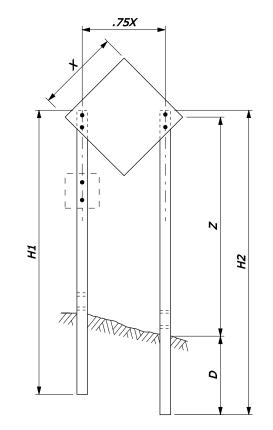
U.S. CUSTOMARY DETAIL

CONSTRUCTION SIGN INSTALLATION WOOD POSTS

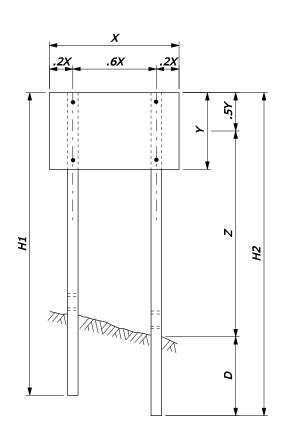
DETAIL APPROVED FOR USE 12/2006 REVISED:

DETAIL W635-20



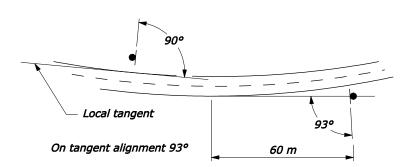


TWO POST SIGN



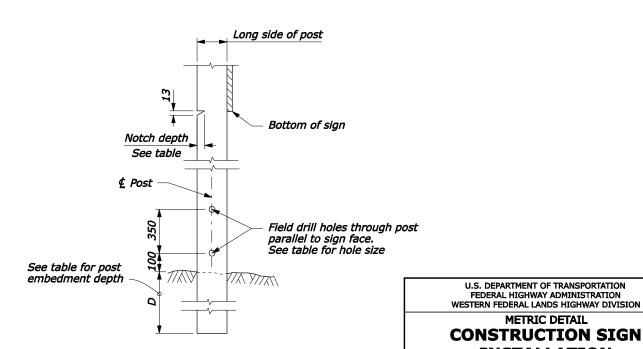
NOTE:

- 1. Attach sign panels with a minimum of 2 M6 bolts per post.
- 2. Mount signs smaller than listed on a single 100 x 100 post. For signs not shown, use next largest size.
- 3. H1 and H2 = Overall post length. Select post lengths to fit field conditions.
- 4. D = Post embedment depth for average soil conditions.
- 5. When pedestrians are present, or in areas where the view is obstructed, use 2.1 m minimum mounting height.
- 6. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are not available.
- 7. Dimensions without units are millimeters.



SIGN INSTALLATION ANGLE

WOOD POST SELECTION TABLE											
SIGN SHAPE	XxY	GROUNDLINE TO CENTER OF SIGN HEIGHT (Z)									
		Z IS 3 m OR LESS					Z IS GREATER THAN 3 m				
		NUMBER OF POSTS	POST SIZE	D	HOLE SIZE	NOTCH DEPTH	NUMBER OF POSTS	POST SIZE	D	HOLE SIZE	NOTCH DEPTH
\Diamond	750 x 750	1	100 x 100	900	О	О	1 or 2	100 x 150 100 x 100	1200 900	40 0	0
\Diamond 00	900 x 900	1 or 2	100 x 150 100 x 100	1200 900	40 0	0	1 or 2	100 x 150 100 x 100	1200 900	40 0	0
\Diamond	1200 x 1200	1	100 x 150	1200	40	О	1 or 2	150 x 200 100 x 150	1200 1200	75 40	0 45
	1500 x 750	2	100 x 100	900	О	О	2	100 x 150	1200	40	45
	1950 x 1050	2	100 x 150	1200	40	45	2	100 x 150	1200	40	45
	2400 x 1200	2	100 x 150	1200	40	45	2	150 x 200	1200	<i>75</i>	60



POST DETAIL

NO SCALE

METRIC DETAIL **CONSTRUCTION SIGN INSTALLATION WOOD POSTS**

U.S. DEPARTMENT OF TRANSPORTATION

DETAIL APPROVED FOR USE 12/2006 DETAIL WM635-20

