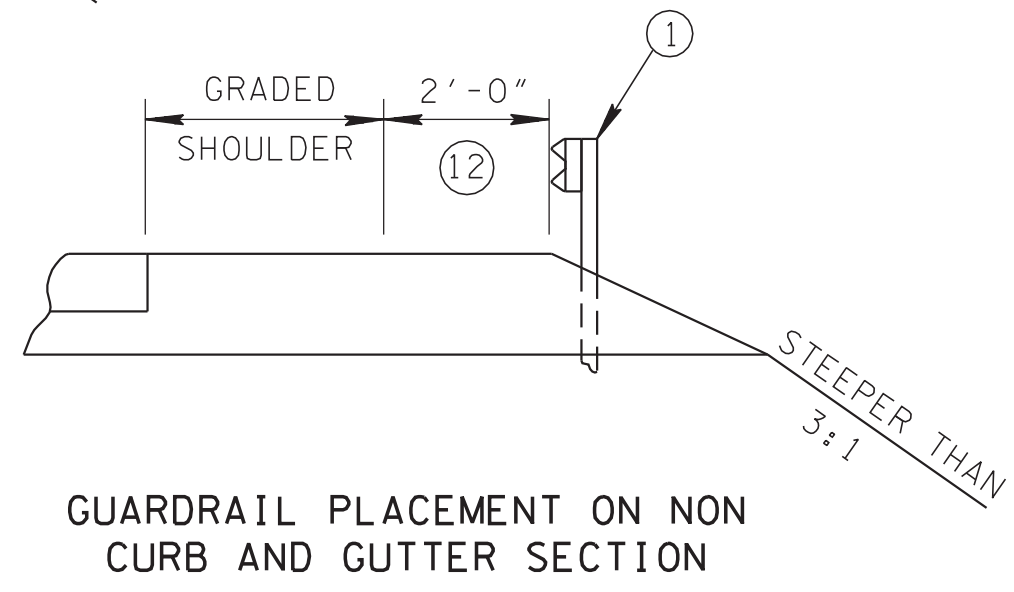


- REV. 5-28-87: CHANGED SUPER-ELEVATION DRAWING REFERENCE.
- REV. 11-9-88: CHANGED SHOULDER SLOPE.
- REV. 9-10-90: REDREW SHEET, REORGANIZED SHEET AND UPDATED TO 1990 POLICY.
- REV. 3-20-02: ADDED SPECIAL NOTE.
- REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.

SPECIAL NOTE
THIS DRAWING IS NOT TO BE UTILIZED FOR NEW DESIGN PROJECTS BEGUN AFTER OCTOBER 1, 2002.



⑩ PROJECTED DESIGN TRAFFIC VOLUME	CURRENT ADT UNDER 400	CURRENT ADT 400 AND OVER	DHV 100-200	DHV 200-400	DHV OVER 400
	WIDTH OF TRAVELED WAY (FEET)				
50	22	24	24	24	24
60	24	24	24	24	24
70	24	24	24	24	24
	⑪ WIDTH OF GRADED SHOULDER EACH SIDE OF PAVEMENT (FEET)				
ALL SPEEDS	4	6	6	8	10

⑨ DESIGN SPEED (MPH)	
LEVEL TOPO	70
ROLLING TOPO	60
MOUNTAINOUS TOPO	50

DESIGN STANDARDS (FOR GIVEN DESIGN SPEED)	DESIGN SPEEDS (MPH)				
	30	40	50	60	70
MAXIMUM CURVATURE (DEGREES) 0.04 MAX. S.E.	19° 00'	10° 00'	6° 00'	3° 45'	—
MAXIMUM CURVATURE (DEGREES) 0.06 MAX. S.E.	21° 00'	11° 15'	6° 45'	4° 15'	2° 45'
MAXIMUM CURVATURE (DEGREES) 0.08 MAX. S.E.	22° 45'	12° 15'	7° 30'	4° 45'	3° 00'
MAXIMUM CURVATURE (DEGREES) 0.10 MAX. S.E.	24° 45'	13° 15'	8° 15'	5° 15'	3° 30'
MAXIMUM RURAL GRADES (%) (PAGE 496, TABLE VII-1)	LEVEL TOPO	—	5	4	3
	ROLLING TOPO	—	6	5	4
	MOUNTAINOUS TOPO	—	8	7	6
MAXIMUM URBAN GRADE (%) (PAGE 525, TABLE VII-4)	LEVEL TOPO	8	7	6	5
	ROLLING TOPO	9	8	7	6
	MOUNTAINOUS TOPO	11	10	9	8
⑧ MINIMUM STOPPING SIGHT DISTANCE (FEET)	200-200	275-325	400-475	525-650	625-850
⑦ MINIMUM "K" VALUE	CREST VERTICAL CURVE	30-30	60-80	110-160	190-310
	SAG VERTICAL CURVE	40-40	60-70	90-110	120-160
⑬ MINIMUM PASSING SIGHT DISTANCE (FEET)	1100	1500	1800	2100	2500
MINIMUM "K" FOR CREST VERTICAL CURVE (PAGE 471, TABLE VI-2B)	400	730	1050	1430	2030
SUPERELEVATION	SEE STANDARD DRAWINGS RD-SE-2 & RD-SE-3				

- FOOTNOTES**
- ① SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.
 - ② SEE DETAIL A, B, C, OR D ON THIS SHEET FOR ROUNDING.
 - ③ SEE STANDARD DRAWING RD-S-11 TO DETERMINE CLEAR ZONE WIDTH. FOR URBAN DESIGN SEE PAGE 534-535.
 - ④ SEE STANDARD DRAWING RS-S-11 FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, AND SPECIAL ROCK CUT TREATMENT.
 - ⑤ SEE STANDARD DRAWING RD-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.
 - ⑥ THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 FOOT PER FOOT.
 - ⑦ "K" VALUE IS A COEFFICIENT BY WHICH THE ALGEBRAIC DIFFERENCE IN GRADE MAY BE MULTIPLIED TO DETERMINE THE LENGTH IN FEET OF THE VERTICAL CURVE.
 - ⑧ ANY LENGTH OF STOPPING SIGHT DISTANCE WITHIN THE RANGE OF VALUES ESTABLISHED ON PAGE 500, TABLE VII-3 IS ACCEPTABLE FOR A SPECIFIC SPEED. HOWEVER, VALUES APPROACHING OR EXCEEDING THE UPPER LIMIT OF THE RANGE SHOULD BE USED AS THE BASIS FOR DESIGN WHEREVER CONDITIONS PERMIT.
 - ⑨ RURAL ONLY PAGE 494. FOR URBAN DESIGN SEE PAGE 524.
 - ⑩ RURAL ONLY PAGE 499, TABLE VII-2. FOR URBAN DESIGN SEE PAGE 526-527.
 - ⑪ USABLE SHOULDERS ON ARTERIALS SHOULD BE PAVED.
 - ⑫ FOR LESS THAN 100 DHV OR ON BRIDGE REPLACEMENT AND REHABILITATION PROJECTS 2 FOOT OFFSET TO FACE OF GUARDRAIL MAY BE ELIMINATED.
 - ⑬ SEE PAGE 500, TABLE VII-3 FOR MINIMUM PASSING SIGHT DISTANCE FOR VARIOUS SPEEDS.

- GENERAL NOTES**
- (A) FOR SPECIFIC CONDITIONS NOT COVERED ON THIS SHEET REFERENCE SHOULD BE MADE TO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" 1990.
 - (B) PAGE NUMBERS REFERRED TO ON THIS DRAWING ARE FROM THE ABOVE REFERENCE.
 - (C) REFERENCE SHOULD ALSO BE MADE TO THE AASHTO "ROADSIDE DESIGN GUIDE".
 - (D) MINIMUM RIGHT-OF-WAY IS THAT REQUIRED TO ACCOMMODATE SLOPES AND UTILITIES (15 TO 20 FEET OUTSIDE THE SLOPE LINES IS DESIRABLE IN RURAL AREAS).
 - (E) ALL NEW AND REHABILITATED BRIDGES SHALL BE DESIGNED FOR HS-20 LOADING. THE MINIMUM CLEAR WIDTH FOR NEW AND REHABILITATED BRIDGES SHALL BE EQUAL TO THE FULL WIDTH OF THE APPROACH ROADWAY, CURB-TO-CURB OR FULL SHOULDER WIDTH AS APPLICABLE.
 - (F) BRIDGES TO REMAIN IN PLACE SHOULD HAVE ADEQUATE STRENGTH AND AT LEAST THE WIDTH OF THE TRAVELED WAY PLUS 2 FEET CLEARANCE ON EACH SIDE, BUT SHOULD BE CONSIDERED FOR ULTIMATE WIDENING OR REPLACEMENT IF THEY DO NOT PROVIDE AT LEAST 3 FEET CLEARANCE ON EACH SIDE OR ARE NOT CAPABLE OF HS-20 LOADINGS. AS AN INTERIM MEASURE, ALL BRIDGES THAT ARE LESS THAN FULL WIDTH SHOULD BE CONSIDERED FOR SPECIAL NARROW BRIDGE TREATMENT SUCH AS SIGNING AND PAVEMENT MARKING.
 - (G) THE CURRENT ADT MAY BE USED FOR THE DESIGN IF THE DESIGN HOURLY VOLUME FOR THE DESIGN YEAR IS LESS THAN 100. OTHERWISE THE DHV SHOULD BE USED.

□ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.