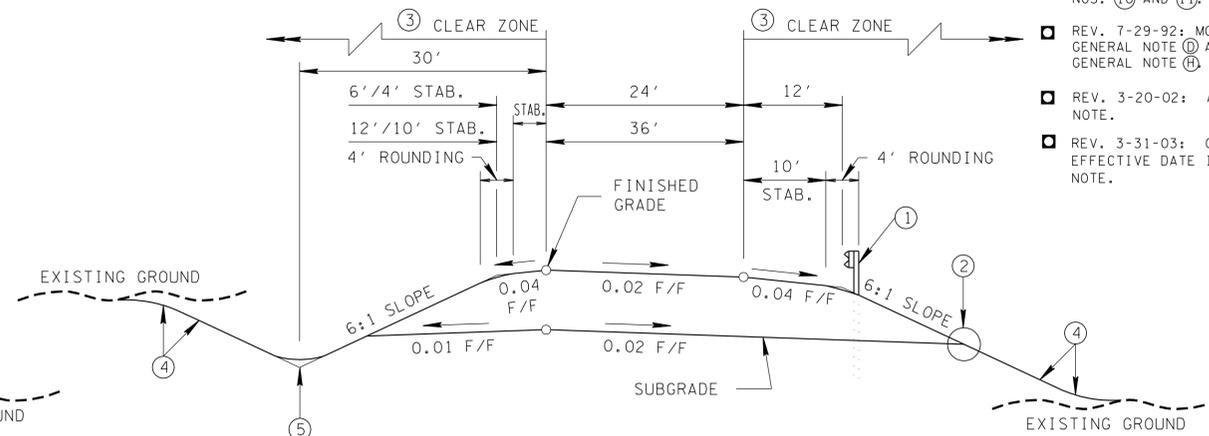
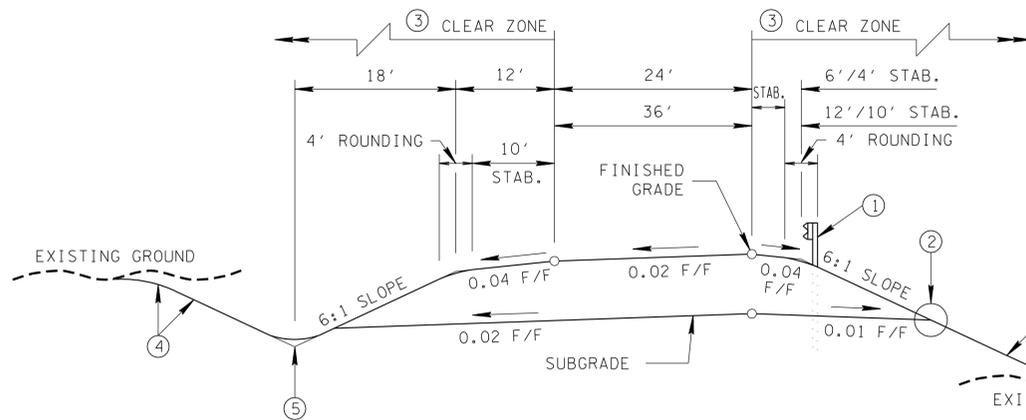
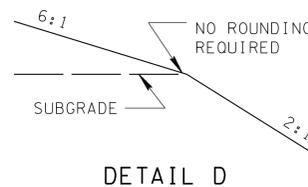
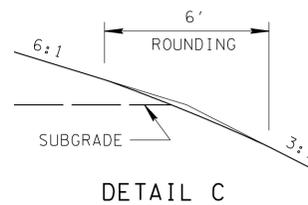
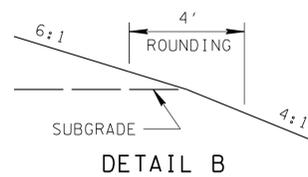
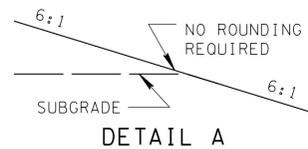


REV. 9-10-90: REDREW SHEET, REORGANIZED SHEET AND UPDATED TO 1990 POLICY.  
 REV. 10-26-91: IN DESIGN STANDARDS TABLE ELIMINATED LINE SHOWING MAXIMUM PER CENT GRADES USED ON INTERSTATE. ELIMINATED OLD FOOTNOTE NOS. (9) AND (11).

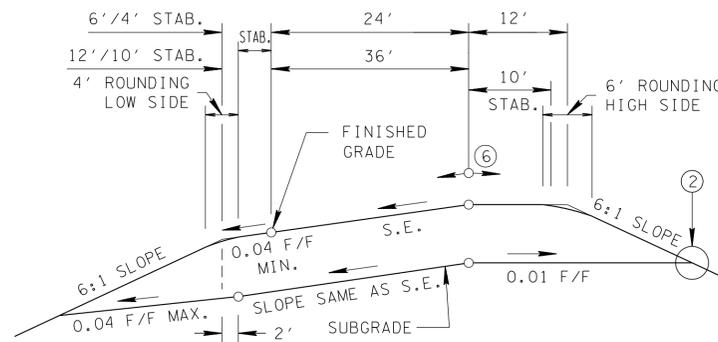
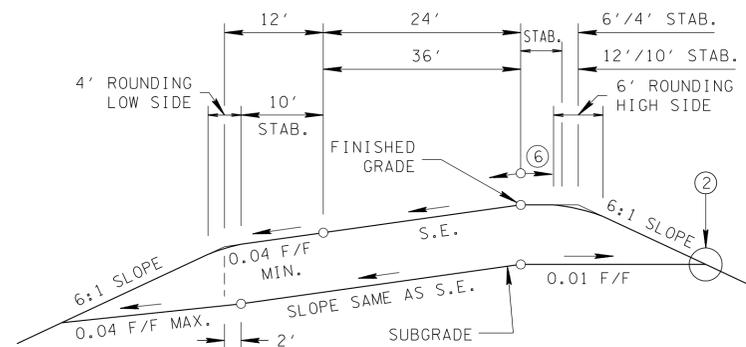
REV. 7-29-92: MODIFIED GENERAL NOTE (10) AND DELETED GENERAL NOTE (11).

REV. 3-20-02: ADDED SPECIAL NOTE.

REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.



TANGENT SECTIONS



SUPERELEVATED SECTIONS

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

DESIGN STANDARDS (FOR GIVEN DESIGN SPEED)	DESIGN SPEEDS (MPH)			
	50	60	70	
MAXIMUM CURVATURE (DEGREES) 0.04 MAX. S.E.	6° 00'	3° 45'	—	
MAXIMUM CURVATURE (DEGREES) 0.06 MAX. S.E.	6° 45'	4° 15'	2° 45'	
MAXIMUM CURVATURE (DEGREES) 0.08 MAX. S.E.	7° 30'	4° 45'	3° 00'	
MAXIMUM CURVATURE (DEGREES) 0.10 MAX. S.E.	8° 15'	5° 15'	3° 30'	
⑧ MINIMUM STOPPING SIGHT DISTANCE (FEET)	400-475	525-650	625-850	
⑦ MINIMUM "K" VALUE	CREST VERTICAL CURVE	110-160	190-310	290-540
	SAG VERTICAL CURVE	90-110	120-160	150-220
SUPERELEVATION		SEE STAND. DWG. RD-SE-2 & 3		
⑩ MAXIMUM GRADES (%) (PAGE 585; TABLE VIII-1)	LEVEL TOPO	4	3	3
	ROLLING TOPO	5	4	4
	MOUNTAINOUS TOPO	6	6	5

- FOOTNOTES**
- SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.
  - SEE DETAIL A, B, C, OR D ON THIS SHEET FOR ROUNDING.
  - CLEAR ZONE WIDTHS SHALL BE DETERMINED FROM STANDARD DRAWING RD-S-11.
  - SEE STANDARD DRAWING RD-S-11 FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, AND SPECIAL ROCK CUT TREATMENT.
  - SEE STANDARD DRAWING RD-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.
  - THE SLOPES OF THE SHOULDER AND ROADWAY PAVEMENT SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 0.07 FOOT PER FOOT.
  - "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.
  - 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.
  - IN URBAN AREAS, THE DESIGN SPEED SHALL BE AT LEAST 50 MILES PER HOUR.
  - GRADES ONE PER CENT STEEPER THAN THE VALUE SHOWN MAY BE USED FOR EXTREME CASES IN URBAN AREAS WHERE DEVELOPMENT PRECLUDES THE USE OF FLATTER GRADES AND FOR ONE-WAY DOWNGRADES EXCEPT IN MOUNTAINOUS TERRAIN.

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

- GENERAL NOTES**
- FOR SPECIFIC CONDITIONS NOT COVERED ON THIS SHEET, REFERENCE SHOULD BE MADE TO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" 1990.
  - PAGE NUMBERS REFERRED TO ON THIS DRAWING ARE FROM THE ABOVE REFERENCE.
  - REFERENCE SHOULD ALSO BE MADE TO THE AASHTO "ROADSIDE DESIGN GUIDE".
  - MINIMUM RIGHT-OF-WAY IS THAT REQUIRED TO ACCOMMODATE SLOPES. (15 TO 20 FEET OUTSIDE THE SLOPE LINES IS DESIRABLE IN RURAL AREAS).
  - 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.
  - 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 TREATMENTS SUCH AS SIGNING AND PAVEMENT MARKING.
  - FOR INTERSTATE, SEE AASHTO'S "A POLICY ON DESIGN STANDARDS-INTERSTATE SYSTEM" JULY 1991.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

DESIGN STANDARDS  
 FREEWAYS WITH  
 INDEPENDENT  
 ROADWAYS

RD-TS-5A