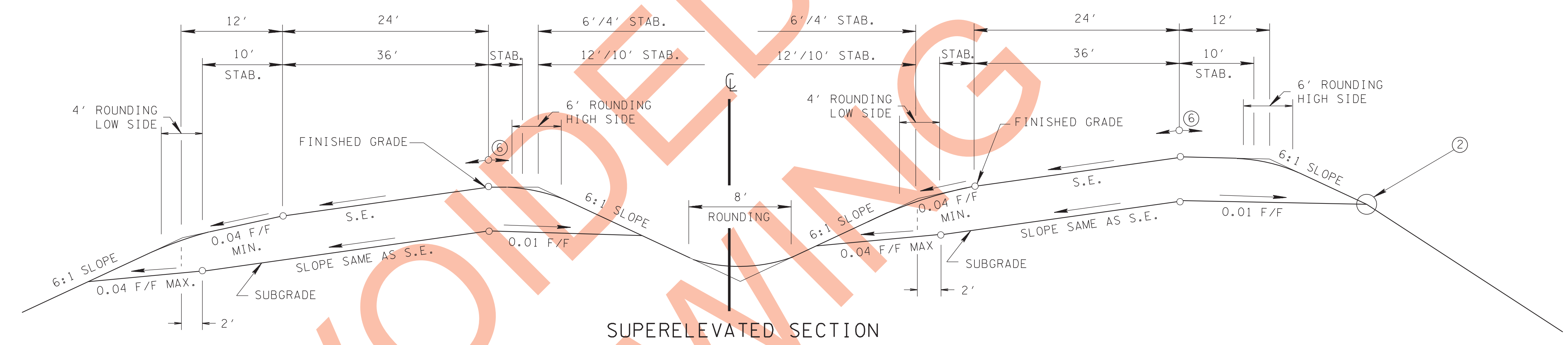
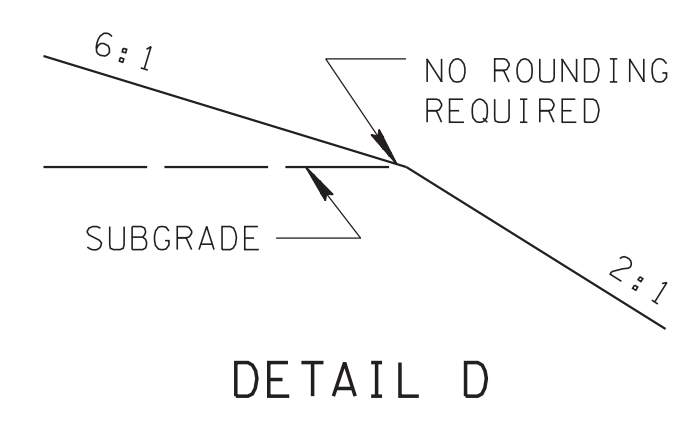
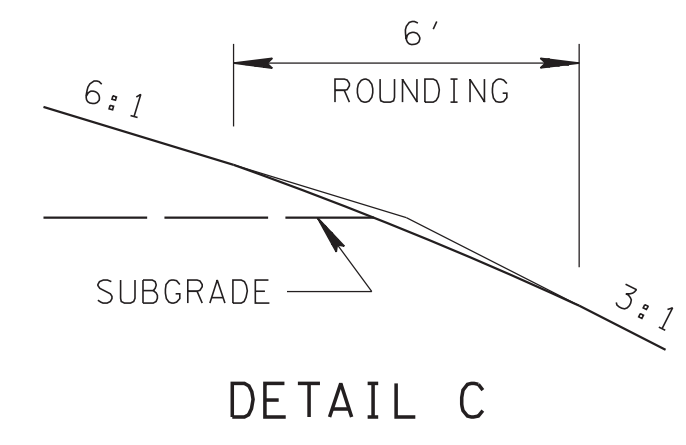
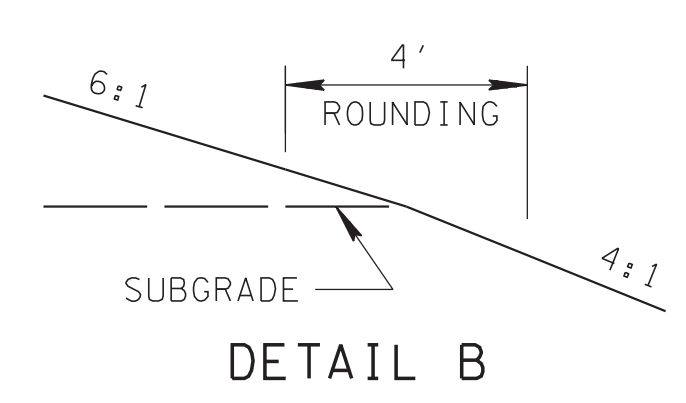
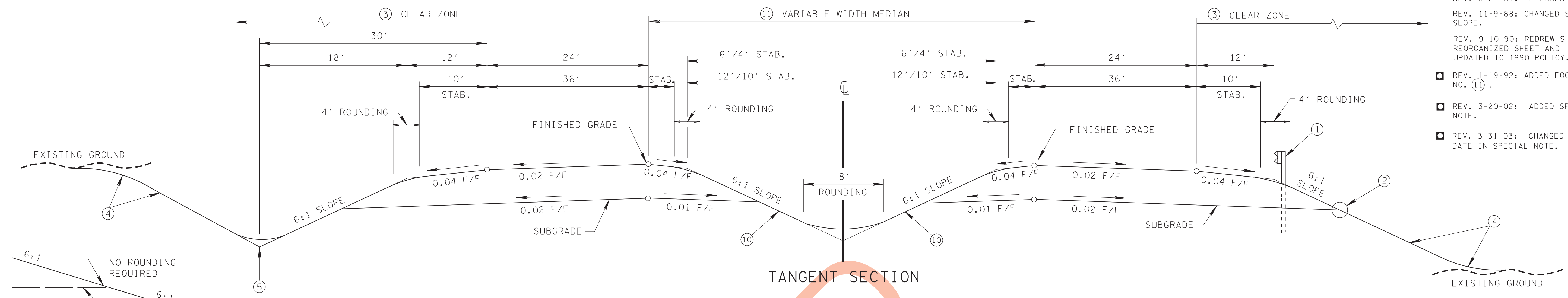


REV. 5-27-87: REPLACES RD-S-15.  
 REV. 11-9-88: CHANGED SHOULDER SLOPE.  
 REV. 9-10-90: REDREW SHEET. REORGANIZED SHEET AND UPDATED TO 1990 POLICY.  
 REV. 1-19-92: ADDED FOOTNOTE NO. (11).  
 REV. 3-20-02: ADDED SPECIAL NOTE.  
 REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.



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

⑨ DESIGN SPEED (MPH)		30	40	50	60	70
LEVEL TOPO			5	4	3	3
ROLLING TOPO			6	5	4	4
MOUNTAINOUS TOPO			8	7	6	5

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	3
	ROLLING TOPO	—	6	5	4	4
	MOUNTAINOUS TOPO	—	8	7	6	5
MAXIMUM URBAN GRADES (%) (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	290-540
	SAG VERTICAL CURVE	40-40	60-70	90-110	120-160	150-220
SUPERELEVATION		SEE STANDARD DRAWINGS RD-SE-2 & RD-SE-3				

- FOOTNOTES**
- SEE GUARDRAIL STANDARD DRAWINGS FOR TYPICAL GUARDRAIL PLACEMENT.
  - SEE DETAIL A, B, C, OR D ON THIS SHEET FOR ROUNDING.
  - CLEAR ZONE WIDTH SHALL BE DETERMINED FROM STANDARD DRAWING RD-S-11. FOR URBAN DESIGN SEE PAGE 534-535.
  - 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.
  - RURAL ONLY PAGE 494. FOR URBAN DESIGN SEE PAGE 524.
  - 4:1 SLOPES MAY BE USED WITH NARROW MEDIANS AND LOW DESIGN SPEEDS.
  - MINIMUM MEDIAN WIDTH IS TO BE 48 FEET WHEN USING 6 FEET WIDE INSIDE SHOULDERS. MINIMUM MEDIAN WIDTH IS TO BE 64 FEET WHEN USING 12 FOOT WIDE INSIDE SHOULDERS.

- 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 AND UTILITIES (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.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.