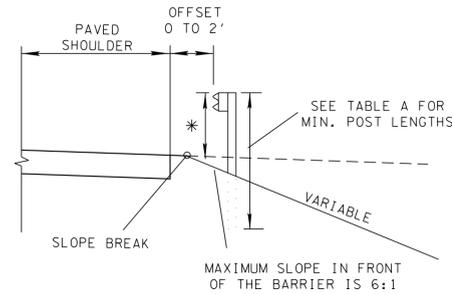


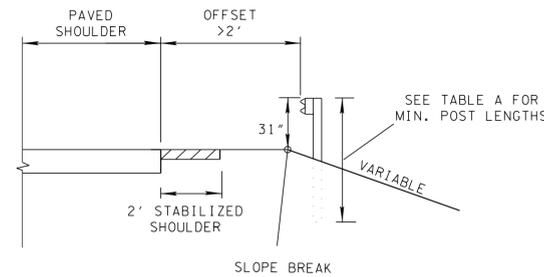
TYPICAL SECTIONS



DETAIL A

GUARDRAIL PLACEMENT
 (ALL SPEEDS)

* NOTE: INSTALL POST AT 31" RELATIVE
 TO A LINE EXTENDED FROM THE
 SHOULDER SLOPE



DETAIL B

OFFSET GUARDRAIL PLACEMENT

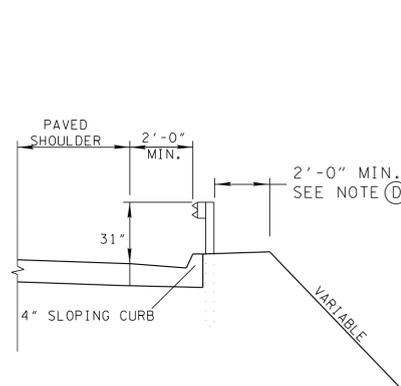
NOTE: INSTALL POST AT 31"
 RELATIVE TO GROUND ELEVATION

ROADWAY FILL SLOPE	MIN. POST LENGTH REQUIRED
6:1	6'
4:1	7'
3:1	8'
2:1	9'
1:1	11'

SEE NOTE (D)

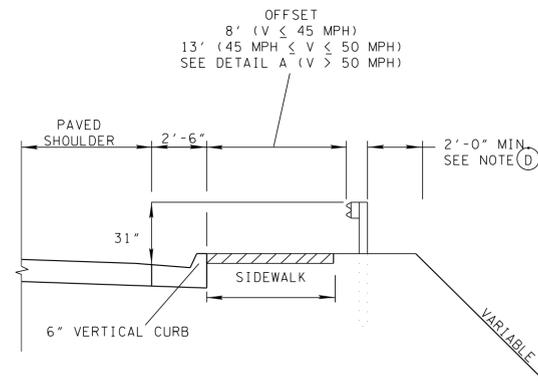
TABLE A

TYPICAL SECTIONS WITH CURB AND GUTTER



DETAIL C

GUARDRAIL PLACEMENT ON CURB
 AND GUTTER SECTION
 (ALL SPEEDS)



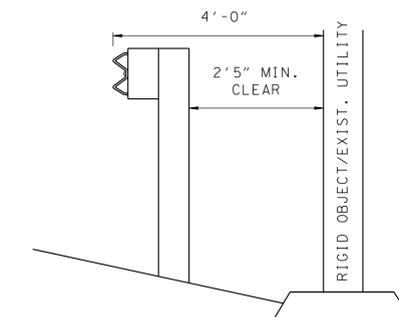
DETAIL D

OFFSET GUARDRAIL PLACEMENT ON
 CURB AND GUTTER SECTION

	GUARDRAIL POST REDUCTION IN DEFLECTION		
	POST SPACING		
	6'-3"	3'-1 1/2"	1'-6 3/4"
SINGLE W-BEAM	2'-6"	2'-0"	1'-6"
NESTED W-BEAM	2'-0"	1'-6"	1'-0"

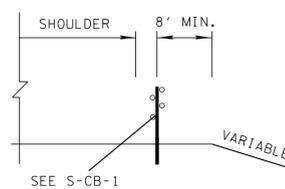
TABLE B

BASED ON NCHRP 350 TL-3



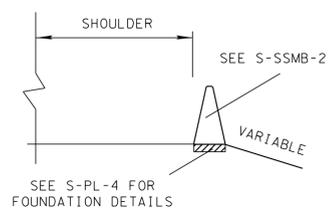
TYPICAL MIN. CLEAR TO
 A RIGID OBJECT
 (SEE TABLE B IF LESS DEFLECTION
 IS DESIRED)

ALTERNATE TO W-BEAM GUARDRAIL
 WHERE HIGHER PERFORMANCE IS NEEDED



DETAIL E

HIGH TENSION 4 STRAND CABLE BARRIER
 (TL-4)



DETAIL F

FREE STANDING CONCRETE BARRIER RAIL
 (TL-5)

GENERAL NOTES FOR GUARDRAIL

- (A) THIS DRAWING PROVIDES GUIDANCE FOR FACILITIES WITH POSTED SPEED LIMIT EQUAL TO OR GREATER THAN 60 MPH. SOME GUIDANCE FOR FACILITIES WITH POSTED SPEED LIMITS LESS THAN 60 MPH ARE INCLUDED IN THIS DRAWING AND ARE LESS STRINGENT, REFER TO THE STANDARDS AND POLICY OFFICE IN THE ROADWAY DESIGN DIVISION FOR ADDITIONAL GUIDANCE.
- (B) IF GUARDRAIL IS IN A CURB AND GUTTER SECTION, IT SHALL BE PLACED SUCH THAT THE GUARDRAIL FACE IS EVEN WITH THE CURB (DETAIL C) OR A MINIMUM OF 8' FROM THE CURB (DETAIL D).
- (C) ON 6:1 OR FLATTER SLOPE GUARDRAIL MAY BE PLACED AT THE SLOPE BREAK.
- (D) ON SLOPES STEEPER THAN 6:1, GUARDRAIL MAY BE PLACED AT A MINIMUM OF 2' IN FRONT OF SLOPE BREAK USING A 6' POST. IF POST CANNOT BE PLACED AT A MINIMUM OF 2' IN FRONT OF SLOPE BREAK, SEE TABLE A FOR MINIMUM POST LENGTH REQUIRED.
- (E) IF THE CONDITION IN NOTE (C) CANNOT BE MET, GUARDRAIL MAY BE PLACED AT SLOPE BREAK IF POSTS ARE LENGTHENED IN ACCORDANCE TO TABLE A.
- (F) REFER TO R001-TS SERIES OF STANDARD DRAWINGS FOR MORE INFORMATION.