

REVISED ON 7/04

GR-3

**TYPICAL INSTALLATION**

POST SPACING MAY BE DECREASED AS NECESSARY TO MAINTAIN ALIGNMENT WHEN RAIL IS ON AN OUTSIDE CURVE WITH A RADIUS OF 715 FEET OR LESS.

**GUARDRAIL TERMINAL PLAN VIEW**

**ELEVATION**

**INTERMEDIATE ANCHORAGE PLAN VIEW**

**ELEVATION**

**CUT SECTION**

**FILL SECTION**

**NOTES:**

FOR ARRANGEMENTS OF SPRING CABLE END ASSEMBLIES (COMPENSATING DEVICES) AND TURNBUCKLE CABLE END ASSEMBLIES, THE FOLLOWING CRITERIA SHALL APPLY:

LENGTH OF CABLE RUNS:

- TO 500'-USE COMPENSATING DEVICE ON EACH END OF EACH INDIVIDUAL CABLE.
- OVER 500' TO 2000'-USE COMPENSATING DEVICE ON EACH END OF EACH INDIVIDUAL CABLE.
- OVER 2000'-START NEW STRETCH BY INTERLACING AT LAST PARALLEL POST. SEE TYP. INSTALLATION.

FITTINGS: ALL FITTINGS SHALL BE SO DESIGNED AND BE OF SUCH SECTION AS TO DEVELOP THE FULL STRENGTH OF A SINGLE CABLE OR CABLE ASSEMBLIES, AS THE CASE MAY BE.

SINGLE CABLE ANCHOR ASSEMBLY- MIN. TENSILE STRENGTH.....25,000 LBS.  
THREE CABLE ANCHOR ASSEMBLY- MIN. TENSILE STRENGTH.....100,000 LBS.  
ALL FITTINGS SHALL BE HOT DIPPED GALVANIZED.

THE DYNAMIC DEFLECTION FOR STANDARD GR-3 IS 11 FEET.

⊗ THE GUARDRAIL AND MEDIAN BARRIER COMPONENTS DEPICTED A.R.T.B.A. TECHNICAL BULLETIN NUMBER 268B MAY BE SUBSTITUTED IF INTERCHANGEABLE WITH THE STANDARDS FOR GUARDRAIL (GR) OR MEDIAN BARRIER (MB) AND APPROVED BY THE ENGINEER.

FOR ROCK INSTALLATION, 8"X24"X1/4" PLATE SHALL BE ELIMINATED, DRILL OR EXCAVATE HOLE FOR POST AND BACKFILL WITH CRUSHER RUN AGGREGATE TO LEVEL OF ROCK.

5/16" ANSIB18.2.2 HEX. BACKING NUT OR APPROVED SHOULDER MUST EQUAL BEARING AREA OF 5/16" STANDARD NUT.

\* THE GUARDRAIL AND MEDIAN BARRIER COMPONENTS DEPICTED IN AASHTO AGC-A.R.T.B.A. "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" MAY BE SUBSTITUTED IF INTERCHANGEABLE WITH THE STANDARDS FOR GUARDRAIL (GR) OR MEDIAN BARRIER (MB) AND APPROVED BY THE ENGINEER.

\*\* WHEN BURYING GR-3 CABLE GUARDRAIL IN THE BACKSLOPE, THE CONCRETE ANCHOR ASSEMBLY MUST BE PLACED AT A HEIGHT ON THE BACKSLOPE TO MAINTAIN THE 27" MIN./28" MAX. CABLE HEIGHT AT THE ANCHORAGE.

\* FOR DETAILS OF TERMINAL CONNECTOR SEE SHEET 501.02

DRILL 3/4" DIA. HOLE IN CENTER

\* TERMINAL CONNECTOR

2 1/2" x 1 1/8" SLOTS FOR SPLICE BOLTS

POST

11" R

45°

4 1/4"

2 1/4"

1'-6"

12 1/4"

**RADIUS TERMINAL SECTION DETAIL**

**METHOD OF TRANSITION FROM CABLE GUARDRAIL TO W-BEAM GUARDRAIL AT BRIDGE APPROACHES**

BRIDGE PARAPET

SLOPE BREAK

STANDARD GR-2

OMIT BLOCKOUT

2'-0" E

SLOPE BREAK

CABLE GUARD RAIL

PAVED SHOULDER

EDGE OF PAVEMENT

RADIUS TERMINAL SECTION (SEE DETAIL)

GR-3 TERMINAL 24'-0"

16'-0"

8'-0"

11'-0"

70 MPH D.S.

RECOVERABLE AREA WIDTH	LT. OR RT. OF C	A	B	C	D	E
24'	12'	27'	26'	375'	150'	
24'	6'	27'	26'	465'	150'	
21'	12'	24'	23'	330'	150'	
21'	6'	24'	23'	420'	150'	

☆ USE 15:1 FLARES ON BOTH TYPES OF RAIL FOR DESIGN SPEED OF 70 MPH OR 13:1 FOR DESIGN SPEED OF 60 MPH OR LESS.

SHEET 1 OF 3

SPECIFICATION REFERENCE

221

505

**CABLE GUARDRAIL**

VIRGINIA DEPARTMENT OF TRANSPORTATION

Rev. 7/03

501.06