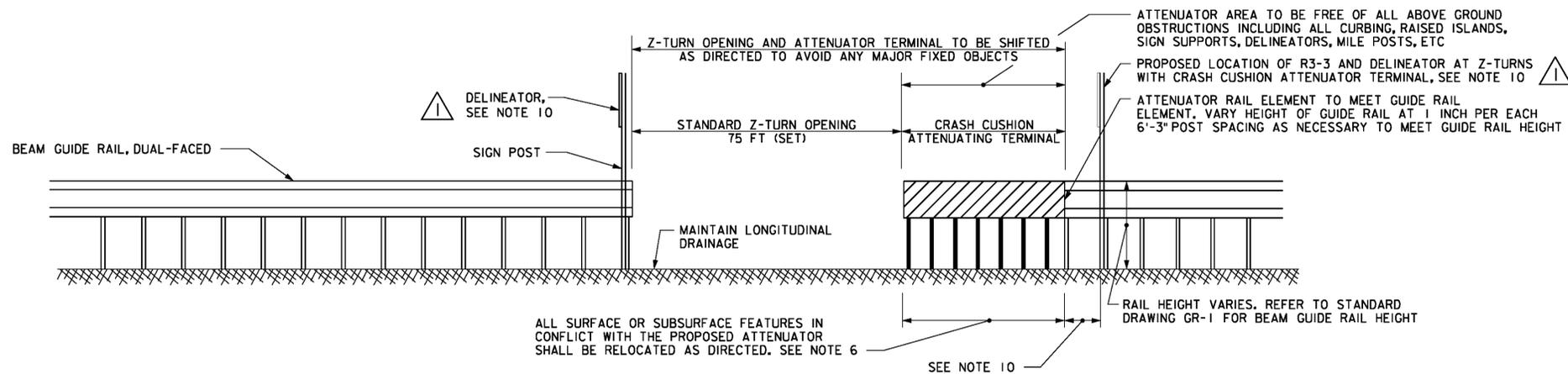
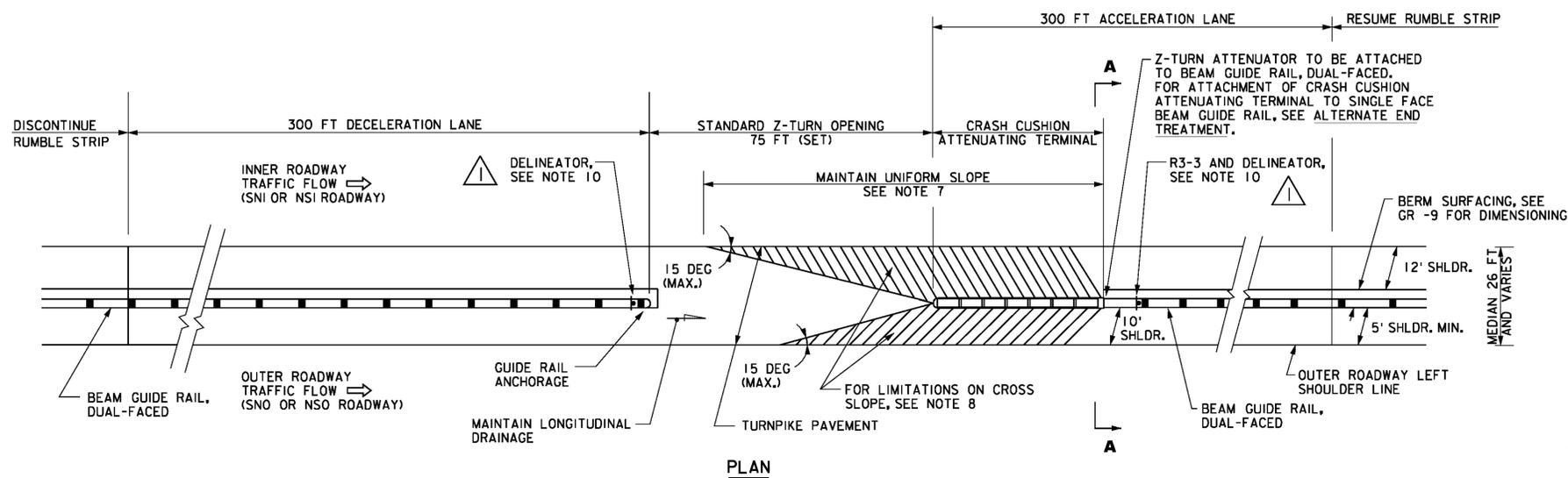


SECTION A-A



ELEVATION



PLAN

STANDARD Z-TURN CRASH CUSHION ATTENUATING TERMINAL INSTALLATION  
DUAL-FACED GUIDE RAIL



GENERAL NOTES:

- THE SELECTION CRITERIA FOR ATTENUATOR INSTALLATIONS AT Z-TURNS IS AS FOLLOWS:
  - THE CRASH CUSHION ATTENUATOR TERMINAL INSTALLATION SHALL BE APPLICABLE AT Z-TURNS WITH DUAL FACED BEAM GUIDE RAIL.
  - THE ALTERNATE END TREATMENT SHALL BE APPLICABLE TO Z-TURNS WITH SINGLE FACED BEAM GUIDE RAIL WHERE AMPLE UNOBSTRUCTED SPACE IS AVAILABLE TO INSTALL THE REQUIRED GUIDE RAIL TRANSITIONS.
  - THE BULLNOSE THRIE BEAM ATTENUATOR SHALL BE APPLICABLE TO Z-TURNS WITH SINGLE FACE GUIDE RAIL WHERE THE SINGLE FACED GUIDE RAIL CANNOT BE PROPERLY TRANSITIONED OR IN WIDE MEDIAN AREAS.
- DRAINAGE IN THE MEDIAN SHOULD BE MAINTAINED.
- FOR THE REQUIRED INSTALLATION OF ALL STANDARD BEAM GUIDE RAIL COMPONENTS, REFER TO STANDARD DRAWINGS GR-1 TO GR-13.
- FOR AREAS REQUIRING REDUCED BEAM GUIDE RAIL POST SPACING, REFER TO STANDARD DRAWINGS GR-7 AND GR-8 FOR THE INSTALLATION OF ADDITIONAL GUIDE RAIL POSTS.
- ADJUST GUIDE RAIL TRANSITION AS REQUIRED TO MINIMIZE IMPACTS TO THE FIXED OBJECTS IN THE MEDIAN.
- IN AREAS WHERE ELECTRICAL CONDUIT OR OTHER UTILITY LINES MIGHT CONFLICT WITH BEAM GUIDE RAIL POSTS OR ATTENUATOR FOUNDATIONS, THE CONTRACTOR MUST EXPOSE THE CONDUIT BY HAND EXCAVATED TEST PITS.
- ELIMINATE ANY BREAKS IN LONGITUDINAL GRADE OR CROSS SLOPE TO PROVIDE A SMOOTH APPROACH.
- ALLOWABLE CROSS SLOPE AT PROPOSED ATTENUATORS:
  - FOR NEW CONSTRUCTION, CROSS SLOPE IN SHADED AREA SHALL BE 10:1 OR FLATTER.
  - FOR EXISTING Z-TURNS, DESIRABLE CROSS SLOPE IN SHADED AREA SHALL BE 10:1 OR FLATTER. HOWEVER, A CROSS SLOPE OF 8:1 SHALL BE CONSIDERED THE MAXIMUM ALLOWABLE.
  - CROSS SLOPES STEEPER THAN 8:1 SHALL BE REGRADED.
- GARDEN STATE PARKWAY ELEMENTS AND POSTS ARE TO BE WEATHERING STEEL AND HOT DIP GALVANIZED 6" MIN. ABOVE PROPOSED GROUND LINE. REFER TO STANDARD SPECIFICATIONS.
- R3-3 AND DELINEATOR SHALL BE LOCATED A MINIMUM OF 6'-3" BEYOND END OF STANDARD ATTENUATOR AT ALL INSTALLATIONS OF THE STANDARD ATTENUATOR. SEE DE STANDARD DRAWINGS FOR DELINEATOR DETAILS IN Z-TURN APPLICATIONS.

NEW JERSEY TURNPIKE AUTHORITY	
<b>STANDARD Z-TURN ATTENUATOR INSTALLATION</b>	
OFFICE OF THE CHIEF ENGINEER	2009 STANDARD DRAWING
GR-14	

App.	No.	DATE	REVISION
	1	11/12	REVISED SIGNING/DELINERATION IN MEDIAN
		04/09	ORIGINAL DRAWING