Fill slopes between 3:1 and 4:1 are traversable, but non-recoverable slopes, defined as one from which most motorists will be unable to stop or to return to the roadway easily. Vehicles on such slopes typically can be expected to reach the bottom. Since a high percentage of encroaching vehicles will reach the toe of these slopes, the recovery area cannot logically end on the slope. Fixed obstacles should not be constructed along such slopes and a clear runout area (10' min.) at the base is desirable. FIGURE A-2-4 provides an example of a clear zone computation for non-recoverable slopes.

Any non-traversable hazards or fixed objects, including but not limited to those listed in TABLE A-3-1, which are located within the clear zone as determined from TABLE A-2-1 should preferably be removed, relocated, made yielding, or as a last resort, shielded with a barrier.

HORIZONTAL CURVE ADJUSTMENTS

The distances in TABLE A-2-1 may be increased on horizontal curves by the values shown in TABLE A-2-2. See the AASHTO *Roadside Design Guide*, Chapter 3 for further instructions.

These modifications are normally considered where crash[*] histories indicate such a need, when a specific site investigation shows a definitive crash potential that could be significantly lessened by increasing the clear zone width, and when such increases are cost effective. In these situations, the clear zone distance is increased by the factor in the table below:

RADIUS	DESIGN SPEED (mph)						
(ft)	40	45	50	55	60	65	70
2950	1.1	1.1	1.1	1.2	1.2	1.2	1.2
2300	1.1	1.1	1.2	1.2	1.2	1.2	1.3
1970	1.1	1.2	1.2	1.2	1.3	1.3	1.4
1640	1.1	1.2	1.2	1.3	1.3	1.3	1.4
1475	1.2	1.2	1.3	1.3	1.4	1.4	1.5
1315	1.2	1.2	1.3	1.3	1.4	1.4	-
1150	1.2	1.2	1.3	1.4	1.5	1.5	-
985	1.2	1.3	1.4	1.5	1.5	-	-
820	1.3	1.3	1.4	1.5	-	-	-
660	1.3	1.4	1.5	-	-	-	-
495	1.4	1.5	-	-	-	-	-
330	1.5	-	-	-	-	-	-

TABLE A-2-2
Source: AASHTO *Roadside Design Guide*, Chapter 3

$$CZ_c = (L_c)\ (K_{cz})$$

Where

CZ_c = clear zone on outside of curvature, ft.
L_c = clear zone distance ft., Table A-2-1
K_{cz} = curve correction factor

Note: Clear zone correction factor is applied to outside of curves only. Curves flatter than 2950 feet don't typically require an adjusted clear zone.

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[*] Rev. 1/12