

	Barrier Required	
	YES	NO
1. Sign Support (ground mounted): (A) Post of breakaway design (a)		X
(B) Post not meeting breakaway criteria (b)(c)(d)	X	
2. Lighting/Signal Poles and Towers (A) Breakaway design		X
(B) Not meeting breakaway design (b)(c)(g)(h)	X	
3. Bridge parapet ends, piers and abutments at underpasses	X	
4. Retaining walls (Including MSE walls) (j) *	X	
5. Trees with a diameter of 4 inches or greater (e)	X	
6. Utility Poles (f)		X
7. Above ground utilities (telephone pedestals, etc.) (i)	X	
8. Rough rock cuts and large boulders	X	
9. Streams or permanent bodies of water more than 2 feet deep (h)	X	
10. Sound Walls (k)		
11. Culvert Headwalls (l)		
<p>NOTES</p> <p>(a) Multiple post installations where the spacing between posts is less than the minimum spacing required for breakaway shall be replaced or shielded by barrier.</p> <p>(b) Every effort should be made to convert non-breakaway to breakaway.</p> <p>(c) Where these devices exist and cannot be converted to breakaway, relocated or removed, the choice of barrier should be in accordance with the deflection shown in Table J-3-3.</p> <p>(d) Wood posts larger than 6" x 8" nominal size do not meet the breakaway requirements even if drilled.</p> <p>(e) Every effort should be made to remove the tree rather than shield it with barrier.</p> <p>(f) Barrier will not normally be used to shield a line of utility poles. However, where barriers are used in front of utility poles for other reasons, the choice of barrier should be in accordance with the deflection shown in Table J-3-3.</p> <p>(g) Pedestal poles, except for those used for power supply should be converted to breakaway standards where possible.</p> <p>(h) A field review and evaluation should be made to determine if barrier is suitable for protecting motorists from these roadside hazards.</p> <p>(i) Consideration should be given to placing utilities underground.</p> <p>(j) When a barrier is required on the top of a retaining wall, a cast-in-place concrete parapet is to be used on top of the wall. Depending on the wall design, the parapet can be integrated into the wall or cast with a moment slab to resist overturning. Do not use guardrail in conjunction with a retaining wall.</p> <p>(k) A cast-in-place concrete barrier is required in front of a sound wall. Refer to Chapter 2E for sound barrier wall design procedures.</p> <p>(l) Consider extending new or existing culvert to move the headwall out of the Clear Zone or designing the headwall as a parapet for a new culvert installation. If guardrail cannot be installed due to the culvert width and shallow fill over the culvert, then cast-in-place concrete barrier must be used over the culvert. If the concrete barrier is being used as a parapet then it must be integral to the culvert or cast with a moment slab.</p>		

**TABLE J-3-2
TYPICAL FIXED AND HAZARDOUS OBJECTS WITHIN THE CLEAR ZONE**

* Rev. 1/19