

TYPICAL PERMANENT BARRIER USES & WORKING WIDTHS

603-2

REFERENCE SECTIONS
603.1

Barrier Type		Standard Drawing	Working Width (see Note 1)	Typical Use & Additional Notes	
Steel Beam Guardrail	Type MGS (see Note 3)	Design Speed ≤30mph	MGS-2.1	3'-2"	Roadside protection. 6'-3" Standard Post Spacing (MASH TL-1)
		Design Speed: >30mph and ≤40mph	MGS-2.1	4'-2"	Roadside protection. 6'-3" Standard Post Spacing (MASH TL-2)
		Design Speed >40mph	MGS-2.1	5'	Roadside protection. 6'-3" Standard Post Spacing (MASH TL-3)
		MGS with Half Post Spacing	MGS-2.1	3'-6"	3'-1 1/2" Half Post Spacing
		MGS with Quarter Post Spacing	MGS-2.1	3'	1'-6 3/4" Quarter Post Spacing
		MGS Installed in Asphalt	MGS-2.1 (Sheet P.5)	5'	Roadside protection installed directly into 2" of asphalt pavement
		MGS Installed in Vegetation Control Strip (with grout leave outs)	MGS-2.1 (Sheet P.5)		Roadside protection with an asphalt or concrete vegetation control strip, and posts embedded in grout leave outs
		MGS Embedded in Rock	MGS-2.1 (Sheet P.5)	7'	Roadside protection in rocky terrain
		MGS Top Mounted Culvert Detail #1	MGS-2.1 (Sheet P.6)	4'-3"	Roadside protection along box culverts with shallow cover
		MGS Top Mounted Culvert Detail #2	MGS-2.1 (Sheet P.6)		
		MGS Barrier Design (Double-Sided MGS)	MGS 2.1 MGS-6.1 MGS-6.2	5'	Narrow medians where deflections can be tolerated.
		MGS Barrier Design with Rub Rail	MGS-2.2	4'-6"	Narrow medians with steeper than 10:1 slopes on the median/rub rail side
		MGS Long-Span	MGS-2.3	8**	*When the headwall is flush to grade, the back of the post can be aligned with the near side of the headwall. But if the headwall protrudes above grade, the system should be offset 8' from the fixed object. Used primarily to span culverts that have limited depths of cover.
	Socketed Weak Post Mounting	MGS-2.4	5'	Used primarily on precast structures that have limited depths of cover	
Permanent Concrete Barrier (see Note 2)	Type B	RM-4.3	Width of Barrier (28")	Narrow medians	
	Type B1	RM-4.3	Width of Barrier (33 3/4")	Narrow medians where additional height is required.	
	Type C	RM-4.3	Width of Barrier (Varies 28" to 32 3/8")	Narrow medians where the difference in shoulder elevation is 24 inches or less.	
	Type C1	RM-4.3	Width of Barrier (Varies 33 3/4" to 38 1/4")		
	Type D	RM-4.5	Width of Barrier (20")	Roadside protection adjacent to fixed obstacles. Area where impact angles over 15 degrees are unlikely or where maintenance may be difficult/dangerous.	
	Type E	RM-4.9	Width of Barrier (14.5")	Where grading requirements behind a Type D wall cannot be met.	
	Type N	RM-4.8	Width of Barrier (3.57')	In lieu of a noise wall with Type D barrier placed in front; typically when the roadway elevation is higher than the surrounding residences making a traditional noise wall outside the clear zone infeasible.	

NOTES:

- 1) Working Width - The distance between the traffic face of the barrier before impact and the maximum lateral position of any major part of the system or vehicle after impact. See examples below on how to measure available working width.
- 2) See Figure 603-6 for **minimum design offset** values of ODOT (Generic) Portable Concrete Barrier.
- 3) MASH TL-3 is required on all ODOT maintained routes & locally maintained NHS routes. MASH TL-3 is preferred elsewhere, but in urban low-speed situations TL-2 or TL-1 may be appropriate when the 5' of working width (TL-3) is not achievable due to various constraints.

Examples of Working Width Measurement

