
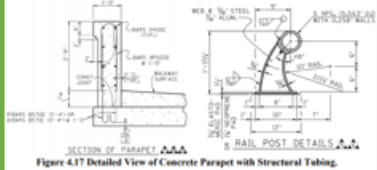
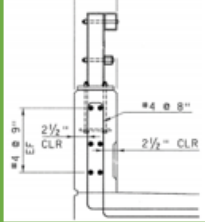
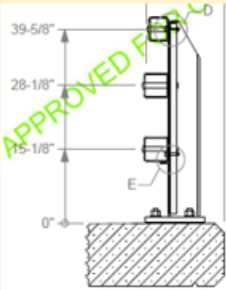


NCHRP Report 350 Rail System Type	MASH Test Level			
	TL-2	TL-3	TL-4	TL-5
Metal Beam-and-Post on Curb	TL-2 TL-3 TL-4			TL-5
Metal Beam-and-Post on Parapet*	TL-2	TL-3 TL-4		TL-5

NCHRP 20-07 Global Equivalency - Concrete parapet height greater than or equal to 24 inches


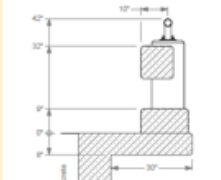

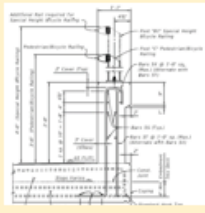

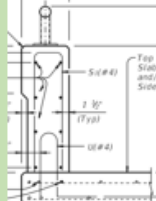

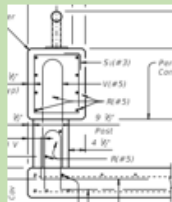
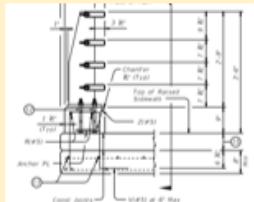
		DARK GREEN: Documentation complete. The Documentation is NCHRP Report 20-07, Task 395 or report from an accredited crash test facility.				LIGHT GREEN: TTI feels the system is MASH compliant. The documentation would be a professional opinion (not yet completed).				LIGHT YELLOW: Systems are planned for full-scale crash testing.			
		Test Level											
		TL-2		TL-3		TL-4 ^{A)}		TL-5 ^{B)}					
Traffic and Pedestrian w/ Sidewalk	<p>48" Caltrans Type 7325W Full Suite Full-scale tests: 2-10, 3-11(in lieu of 2-11) FHWA E.L. B-259</p> 	<p>45.25" Concrete Parapet with Structural Tubing (TN) Eng. analysis: 3-10, 3-11 Doc.: NCHRP 20-07, Task 395</p>  <p>SECTION OF PARAPET A-A-A Figure 4.17 Detailed View of Concrete Parapet with Structural Tubing.</p>	<p>42" S-352 Series, Galvanized Steel Tubing (VT) Eng. analysis: 4-10, 4-11, 4-12 Doc.: NCHRP 20-07, Task 395</p>  <p>Similar Less Critical Rails: PS-1 (IN) Bridge Railing, Aesthetic Parapet Tube (MI) Bridge Sidewalk Railing with Concrete Barrier (OH) Doc.: NCHRP 20-07, Task 395</p>										
				<p>MassDOT S3-MTL4 Sidewalk-Mounted Planned Full Suite</p> 									

MASH Compliant Systems or under MASH Evaluation: Concrete & Metal, Traffic & Pedestrian w/Sidewalk

DARK GREEN: Documentation complete. The Documentation is NCHRP Report 20-07, Task 395 or report from an accredited crash test facility.

LIGHT GREEN: TTI feels the system is MASH compliant. The documentation would be a professional opinion (not yet completed).

LIGHT YELLOW: Systems are planned for full-scale crash testing.

		Test Level			
		TL-2	TL-3	TL-4 ^{A)}	TL-5 ^{B)}
Traffic and Pedestrian w/out Sidewalk	48" Combination Bridge Separation Barrier with Bicycle Railing (low a) Planned Full scale test: 2-11 	42" Modified C66 Full Suite Full-scale tests: 3-10, 3-11 	42 in. TxDOT Type C2P (Picket Rail) Approach: Full Suite Full-scale crash test: 4-10, 4-11, 4-12 Document: FHWA/TX-17/19-1002-15-2 		
		42" Florida Combination (SS+Bullet AI Rail) Planned Full scale test: 3-11 	42" Type 85 Planned Full Suite tests (by 2019) Design completed by Caltrans 		
		42" TxDOT C221 Eng. analysis: 3-10, 3-11 	42" TxDOT C402 (also T402) Full Suite Full-scale tests: 4-10, 4-11, 4-12 Report Pending 		
		42" TxDOT C223 Eng. Analysis: 3-10, 3-11 	42" Texas C1W Planning testing: 4-12 Engineering analysis: 4-10, 4-11 		

A) 36 in. minimum height based on *Determination of Minimum Height and Lateral Design Load for MASH Test Level 4 Bridge Rails.* (Report No. 9-1002-5).

B) 42 in. minimum height as requirement that remains from NCHRP Report 350.

MASH Compliant Systems or under MASH Evaluation: Concrete & Metal, Traffic & Pedestrian no Sidewalk