
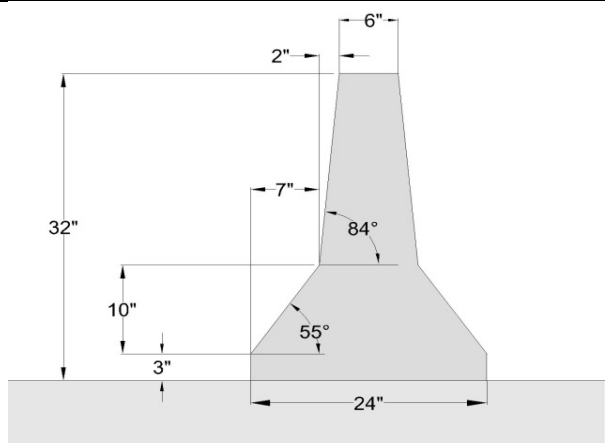

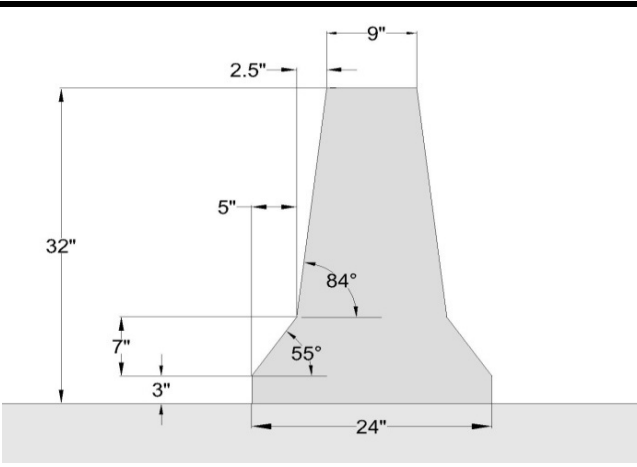

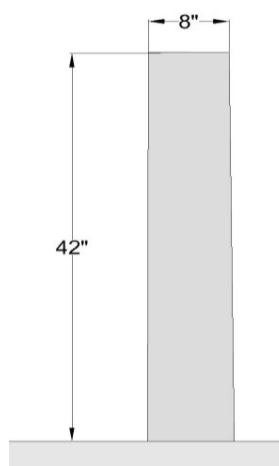



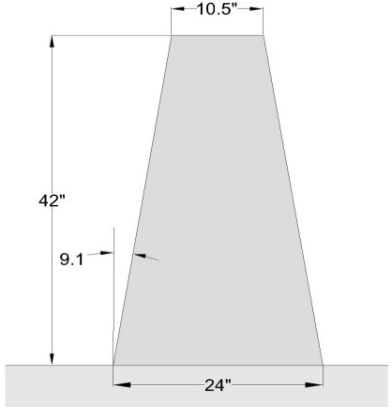

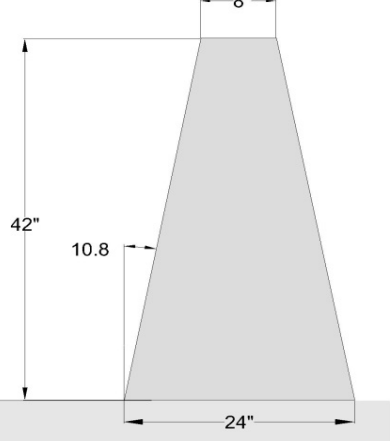

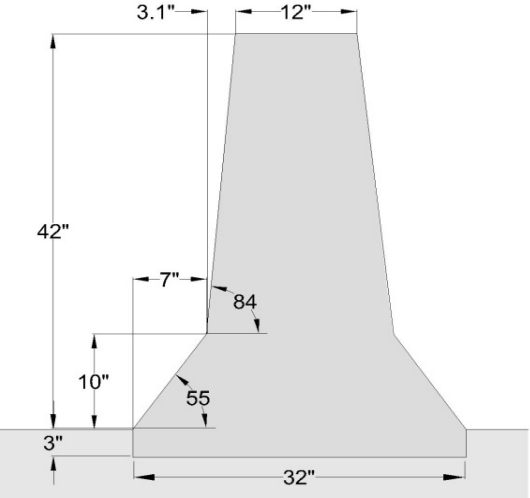
Cast-In-Place Concrete Barriers

NOTE: Reinforcing steel in each of these barrier may vary and have been omitted from the drawings for clarity, only the Ontario Tall Wall is unreinforced.

NAME/MANUFACTURER	ILLUSTRATION	TEST LEVEL		PROFILE GEOMETRIC DIMENSIONS	CHARACTERISTICS
		NCHRP 350	MASH		
New Jersey Safety-Shape Barrier https://www.aashtotf13.org/Files/Drawings/sgm11a_b.pdf		TL-4 32" Tall TL-5 42" Tall			The New Jersey Barrier was the most widely used safety shape concrete barrier prior to the introduction of the F-shape. As shown, the "break-point" between the 55 deg and 84 deg slope is 13 inches above the pavement, including the 3 inch vertical reveal. The flatter lower slope is intended to redirect vehicles impacting at shallow angles with little sheet metal damage, but can cause significant instability to vehicles impacting at high speeds and angles.
F-shape Barrier https://www.aashtotf13.org/Files/Drawings/sgm10a_b.pdf		TL-4 32" Tall TL-5 42" Tall			The F-shape has the same basic geometry as the New Jersey barrier, but the "break-point" between the lower and upper slopes is 10 inches above the pavement. This modification results in less vehicle climb in severe impacts and improved post-crash trajectories. The 7.5 inch horizontal distance from the toe of the F-shape to its top corner also reduces the roll angle of impacting trucks and other vehicles with high centers-of-gravity. NOTE: 8" top width minimum is acceptable.
Vertical Concrete Barrier		TL-4 32" Tall TL-5 42" Tall			A vertical concrete barrier may be a good choice where vehicle roll must be minimized, such as when shielding a bridge pier. This shape offers the best post-crash trajectories with only slight roll, pitch, and yaw angles. Lateral deceleration forces may be somewhat higher than with a safety shape design.


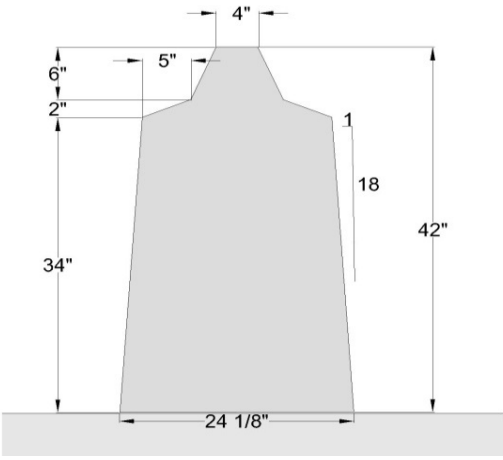

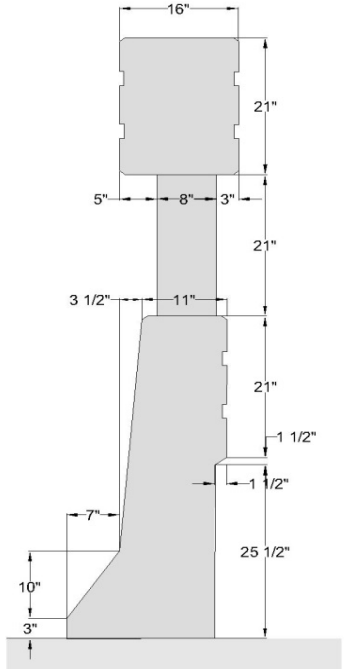
Cast-In-Place Concrete Barriers

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		NCHRP 350	MASH		
Single Slope Barrier		TL-4 32" Tall TL-5 42" Tall			The 9.1 degree single-slope barrier, developed in California, performs comparably to the F-shape barrier, with good post-impact vehicle trajectories.
Constant Slope Barrier		TL-4 32" Tall TL-5 42" Tall			The 10.8 degree single-slope barrier, developed in Texas, performs comparably to the New Jersey barrier.
Ontario Tall Wall Median Barrier https://www.aashtotf13.org/Files/Drawings/sgm12.pdf		TL-5 42" Tall			The lower portion of the barrier is very similar to the F shape barrier with its slope "break-point" 10 inches above the pavement. However this barrier is taller and has a larger footprint (32" vs. 24") than the standard F-shape and has no reinforcing steel.

Cast-In-Place Concrete Barriers

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NAME/MANUFACTURER	ILLUSTRATION	TEST LEVEL		PROFILE GEOMETRIC DIMENSIONS	CHARACTERISTICS
		NCHRP 350	MASH		
Vertical Faced Concrete Median Barrier Incorporating Head Ejection Criteria		TL-5 42" Tall	TL-5		<p>This concrete median barrier was developed to redirect vehicles ranging from small cars to fully-loaded tractor trailers, while safely</p> <ul style="list-style-type: none"> maximizing stability in passenger vehicles by limiting wheel climb and roll. addressing occupant safety by limiting peak impact forces preventing "head slap" providing an economical alternative to existing concrete barrier design.
Tank Truck Barrier Wall		TL-6 90" Tall			<p>This barrier was developed as a TL-6 design to contain and redirect vehicles up to an 80,000 lb. tractor tanker. The base is essentially a New Jersey barrier slope, followed by an open "window" design, and topped by a continuous reinforced concrete beam 21 inches high and 16 inches deep. It has been used in the US as a bridge railing, a median barrier and as a roadside barrier.</p>