



Bridge Rail Guide

The North Carolina Department of Transportation



This guide is a visual reference for various types of bridge railings. It provides those involved with highway planning and design an accurate depiction of the various rail systems, and summarizes the typical situations and conditions for use of each rail.

These renderings were created from 3D CADD models, built according to the Highway Design Branch "Roadway Standard Drawings" and "Structure Standard Drawings", and are current as of February 2006.





Standard 1 Bar Railing

This rail is generally used on long waterway crossings or other areas where a view of the surroundings is highly desirable. Use of this rail is limited to routes that are not on the National Highway System, have a design speed of 45 MPH or below, and where a limited volume of truck traffic is expected. On occasion, weathering steel and/or anodized metal rails may be used to blend in with a historical setting or the natural surrounding.



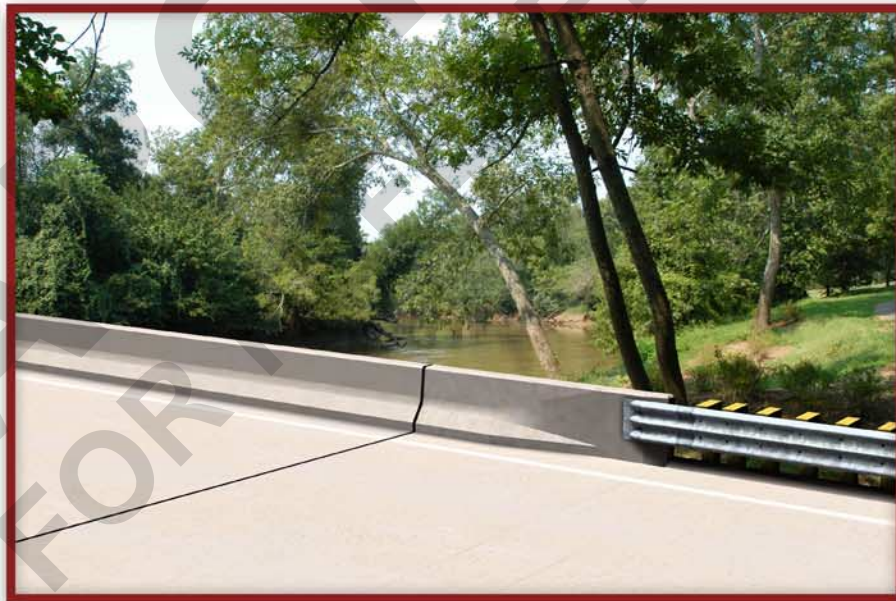
Standard 2 Bar Railing

This rail is used for structures on designated bicycle routes or on structures intended to carry a sidewalk in the future. When a future sidewalk is anticipated, the height of the concrete parapet is increased and the first metal rail is lowered. This rail is acceptable for use on high-speed arterial highways with very low mixtures of heavy vehicles. On occasion, weathering steel and/or anodized metal rails may be used to blend in with a historical setting or the natural surrounding.



Standard 3 Bar Railing

This rail is used on structures with a sidewalk. Use of this rail is limited to routes that are not on the National Highway System, have a design speed of 45 MPH or below, and where a limited volume of truck traffic is expected. On occasion, weathering steel and/or anodized metal rails may be used to blend in with a historical setting or the natural surrounding.



Jersey Barrier

The New Jersey shape concrete barrier is used on the vast majority of bridges on high-speed highways, freeways, and interstate highways. These routes typically carry a mixture of cars, trucks, and heavy vehicles. On occasion, weathering steel or anodized steel guardrail may be used to blend in with a historical setting or the natural surroundings.



Texas Classic

This rail typically replaces a comparable existing rail on historical sites, or it used on sites where the aesthetics of the bridge are required to be in concert with the surroundings. This rail may only be used with a sidewalk, and should be restricted to lower speed locations within context sensitive design areas. Use of this rail is limited to routes that are not on the National Highway System, have a design speed of 45 MPH or below, and where a limited volume of truck traffic is expected. On occasion, weathering steel or anodized steel guardrail may be used to blend in with a historical setting or the natural surroundings.



The Nebraska Rail

Use of the Nebraska rail is limited to routes that are not on the National Highway System, have a design speed of 45 MPH or below, and where a limited volume of truck traffic is expected. This rail may be applicable for bridges over streams that overtop frequently. The rail is designed to allow the stream flow to pass through the rail and over the bridge during a flooding event.

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