

MEMORANDUM

DEPARTMENT OF TRANSPORTATION
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Date: October 1, 1998

To: All Bridge Worksheet Users

From: S. W. Horton

Subject: Bridge Rail Standards

To comply with current FHWA requirements, CDOT has revised the Type 10 Bridge Rail. The FHWA now requires all new bridge rails used on the National Highway System to comply with NCHRP 350 requirements for test level three (TL-3) rails. The new Type 10 Bridge Rail standards are attached. The attached standards have been approved by the FHWA for TL-4 based on calculation and comparison to other approved TL-4 rails.

The new details should be used on all projects advertised on or after 10/22/98, and where implementation will not result in delaying the advertisement.

The pay item for the revised rail will be: 606 Bridge Rail Type 10M.

The most significant changes to the Type 10 are as follows:

- Clear spacing between horizontal rails from 10" to 6"
- Curb 3" deeper and 3" wider
- Tube thickness from 3/16" to 5/16"
- Maximum post spacing from 12.5' to 10'
- Posts from W8x24 to W8x18
- Number of Anchor bolts from 4 to 2
- Anchor bolt diameter from 7/8" to 1"
- Base plate from 7/8"x10"x12" to 3/4"x8"x10"
- Curb stirrups from 2 pieces to 1 piece
- Longitudinal curb rebar from 2-#4 to 5-#4
- Bridge rail at approaches on approach slab instead of wingwalls

The Department is also preparing to revise the Type 4 rail from a jersey shape to a type-f shape for improved performance with high center of gravity vehicles. The details for the type-f bridge rail are attached. These new details should not be used until the type-f

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M-Standards are released. The directions given at that time for implementation of the type-f guardrail will also apply to the type-f bridge rail.

The pay item for the type-f bridge rail will be: 606 Bridge Rail Type 7.

The revised Type 10M and Type 7 are both TL-4 rails. They will become CDOT's standard rails for all new bridge rail used in CDOT right-of-way. Existing bridge rails that meet the requirements of the AASHTO Standard Specifications do not need to be upgraded unless they otherwise require replacement, relocation or major reconstruction (e.g., when a bridge is either widened or replaced, or when major portions of an existing rail have been damaged beyond use).

Electronic copies of these and other Staff Bridge standards can be obtained at <http://www.dot.state.co.us/business/design/bridge/other>. The metric versions of the attached standards are available at this location.

Please review and become familiar with these new standards. If you have any questions or recommendations for improvement please contact Mark Leonard, Staff Bridge, 757-9486.

Attachment: 4 worksheets

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