MINNESOTA DEPARTMENT OF TRANSPORTATION
Engineering Services Division
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May 2, 2008

To: Distribution 57, 612, 618, and 650

From: Richard Arnebeck
Engineering Services Division Director

Subject: Temporary Portable Precast Concrete Barrier Type "F"

Expiration
This Technical Memorandum supersedes Technical Memorandum 03-09-C-01 and will expire October 2, 2012, unless superseded prior to that date.

Implementation
All Mn/DOT projects let after January 1, 2008, require the use of Temporary Portable Precast Concrete Barrier Type "F" conforming to Standard Plate 8337B or any subsequent version current at the time of bidding.

This requirement is for all Temporary Portable Precast Concrete Barrier Type "F" used on the National Highway System, Trunk Highway construction, maintenance projects, and State Aid construction projects. This requirement also applies to utility and permit projects within the trunk highway right of way.

Unless otherwise specified in the project contract documents, projects that were let prior to January 1, 2008 may continue to make use of barriers meeting Standard Plate 8337A provided the barrier was produced before October 1, 2003, and in acceptable condition. Barriers meeting Standard Plate 8337B, or any subsequent version, can be used on any project, regardless of letting date or construction date. However, different barrier designs must not be mixed or connected in any way.

Introduction
On October 1, 2002, the FHWA requirements, based on NCHRP Report 350, went into effect for all Portable Concrete Barrier used on the National Highway System. On March 19, 2003, Mn/DOT issued a new design, Standard Plate 8337B, which met the NCHRP Report 350 requirements.

The older style barrier (Standard Plate 8337A, approved October 7, 1997) was still accepted on projects, provided it was in sufficiently good condition to remain effective. This older style barrier is still accepted for use on projects let prior to January 1, 2008, until the project is completed.

There are distinct differences between the old barrier design (Standard Plate 8337A) and the current design meeting Standard Plate 8337B. The current barrier design is 2" wider and 2'-6" longer. In addition, the connecting loops are rigid and there are three loops per barrier end, for a total of six loops per connection. The two barrier types cannot be mixed.

Purpose
Temporary Portable Precast Concrete Barrier meeting the current Standard Plate 8337B has resulted in improved performance regarding barrier deflection at impact and barrier rotation at connecting pin locations.

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Guidelines

All Temporary Portable Precast Concrete Barrier Type "F" used on the National Highway System, Trunk Highway construction, maintenance projects, and State Aid construction projects, must be in sufficiently good condition to be acceptable.

To be acceptable, the barrier section shall meet the following minimum requirements:

1. Connecting loops shall be intact and undamaged. In the case of wire rope, there shall be no de-lamination or missing strands.
2. May have no more than hairline cracking due to handling and wear present.
3. Barrier faces and/or ends may have areas where surface concrete has been lost, but no area that would affect impacting vehicle travel/direction or overall structural integrity.
4. Rebar surface may be partially exposed but is not likely to affect impacting vehicle travel/direction or overall structural integrity.
5. Finished edges are reasonably square with no loss of concrete and may have minimal chipping.

The barrier is **unacceptable** in the following cases:

1. Any connecting loops are cracked or, in the case of wire loop rope, are delaminated or missing strands.
2. Barrier section has major cracking that is likely to affect its structural integrity.
3. Barrier faces have extensive loss of surface concrete which would affect vehicle travel/direction.
4. Finished edges are so worn and rounded that the Type "F" profile face is no longer well-defined.
5. Barrier is delaminated to the point that rebars are completely exposed and are likely to affect impacting vehicle travel/direction or structural integrity.

Additional information regarding acceptable and unacceptable barrier and the associated standard plates can be found on the Office of Traffic, Safety, and Operations and Office of Technical Support websites: both of which can be found at http://www.dot.state.mn.us/atoz.html.

Questions

For information on the technical contents of this memorandum, please contact **Michael Elle, Office of Technical Support, Design Standards at (651) 366-4622 or Alex Chernyaev at (651) 366-4618.**

Any questions regarding publication or distribution of this Technical Memorandum should be referred to the Design Standards unit, designstandards@dot.state.mn.us. A link to all active and historical Technical Memoranda can be found at http://www.dot.state.mn.us/atoz.html under Technical Memorandums.

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