



SUPERSEDED BY EB 15-031 EFFECTIVE 9/28/15		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 07-005
Title: REVISIONS TO STANDARD SPECIFICATIONS - §704-05 PRECAST CONCRETE BARRIER			
Distribution: <input checked="" type="checkbox"/> Manufacturers (18) <input type="checkbox"/> Surveyors (33) <input checked="" type="checkbox"/> Local Govt. (31) <input checked="" type="checkbox"/> Consultants (34) <input checked="" type="checkbox"/> Agencies (32) <input checked="" type="checkbox"/> Contractors (39) <input type="checkbox"/> _____ ()		Approved:  Robert L. Sack, Deputy Chief Engineer, Research	
		21 Feb 07 Date	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of 09/06/07.
- This EI does not supersede any other issuance.
- The revisions issued with this EI will be incorporated into a future update of the Standard Specifications.

PURPOSE:

This EI issues revisions to §704-05 of the Standard Specifications of May 4, 2006.

TECHNICAL INFORMATION:

- This revision provides revised material requirements for Temporary Concrete Barrier (TCB).
- The Department discovered some problems with fabrication of TCB when crash testing was conducted in the 1990's.
- The new specification requires that TCB be produced in accordance with an approved QC/QA program, which provides additional assurances that TCB has been properly fabricated.
- Editorial revisions and clarifications have been made to the other items in the specification.

IMPLEMENTATION:

- Main Office Design Quality Assurance Bureau will insert the standard specification shelf note into contract proposals beginning with projects submitted for the letting of 09/06/07.

TRANSMITTED MATERIALS:

Attached to this EI is a Standard Specifications Shelf Note *Precast Concrete Barrier*.

BACKGROUND: This is the third of several steps required to update Maintenance and Protection of Traffic specifications. Other steps will include revision to Section 619 *Maintenance and Protection of Traffic*, issuance of design guidance, and issuance of construction inspection guidance.

CONTACT: Direct questions regarding this EI to Jim Reidy JReidy@dot.state.ny.us of the Materials Bureau at (518) 457-4591 or Brian DeWald BDeWald@dot.state.ny.us of the Office of Construction at (518) 457-6472.

PRECAST CONCRETE BARRIER

Make the following changes to the Standard Specifications of May 4, 2006:

Delete §704-05 *Precast Concrete Barrier* in its entirety and Replace it with the following:

704-05 PRECAST CONCRETE BARRIER

SCOPE. This specification covers the material and quality requirements for precast concrete barrier used in highway applications, precast concrete barrier for structures, and precast temporary concrete barrier.

MATERIAL REQUIREMENTS. The Material Requirements contained in §704-03 *Precast Concrete - General* shall apply except as noted herein.

Concrete mixtures used under this specification shall have a maximum cement content of 445 kg per cubic meter. Unless noted otherwise in the contract documents or approved fabrication drawings, the compressive strength of concrete used in precast concrete barrier shall be as follows:

Concrete Barrier	25 MPa (minimum) @ 28 days
Concrete Barrier for Structures	35 MPa (minimum) @ 28 days
Temporary Concrete Barrier	25 MPa (minimum) @ 28 days

All reinforcing steel for Concrete Barrier and Concrete Barrier For Structures shall be epoxy coated meeting the requirements of §709-04 *Epoxy Coated Bar Reinforcement, Grade 420*. All reinforcing steel for Temporary Concrete Barrier shall meet the requirements of §709-01 *Bar Reinforcement, Grade 420*.

DRAWINGS. The drawing requirements contained in §704-03 *Precast Concrete - General* shall apply except as noted herein.

Concrete Barrier and Temporary Concrete Barrier shall use dimensions as shown on the Standard Sheets. Concrete Barrier for Structures shall use dimensions as shown on the Bridge Design (BD) Sheets.

FABRICATION. The fabrication requirements contained in §704-03 *Precast Concrete - General*, as well as the following shall apply.

- Cross-sectional dimensions shall not vary from the dimensions shown by more than 6 mm.
- Barrier shall not be out of plumb by more than 6 mm.
- Longitudinal dimensions shall not vary from the dimensions shown by more than 6 mm per 3.0 m of barrier.
- When checked with a 3.0 m straight edge, irregularities shall not exceed 6 mm.

SAMPLING AND TESTING. The Sampling and Testing requirements contained in §704-03 *Precast Concrete - General* shall apply.

MARKING. The Marking requirements contained in §704-03 *Precast Concrete - General* shall apply except as noted herein.

Concrete Barrier and Concrete Barrier For Structures shall be marked on one end of each barrier segment such that they will not be exposed to view after installation.

Temporary Concrete Barrier shall be marked with "NYSDOT" in place of a Department contract number. In addition, each Temporary Concrete Barrier segment shall be permanently marked with a manufacturer's identification and a date of manufacture in a manner that will remain legible throughout its service life. The date, at a minimum, shall contain the month and year. Permanent markings shall be placed in a consistent location on the top, bottom, or one end of each segment. Imprinting the required information a minimum of 6 mm into the concrete surface will be considered an acceptable permanent marking. Paint will not be considered a permanent marking. If permanent markings are located on the

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bottom of the segment, paint markings matching the permanent markings shall be placed on one end of each segment to facilitate field inspection.

FINAL PRODUCTION INSPECTION. The Final Production Inspection requirements contained in §704-03 *Precast Concrete - General* shall apply.

SHIPPING. The Shipping requirements in §704-03 *Precast Concrete - General* shall apply.

BASIS OF APPROVAL. Concrete Barrier designs other than those shown on the Standard Sheets will not be approved.

Concrete Barrier For Structures designs may be proposed, and if found acceptable, they will be placed on the approved list. Evidence shall be provided that the proposed anchorage system has been successfully tested in accordance with the procedural directives issued by the DCES.

Temporary Concrete Barrier designs other than those shown on the Standard Sheets may be proposed, and if found acceptable, they will be placed on the approved list. Evidence shall be provided that the temporary concrete barrier, with the proposed joint system, is NCHRP 350 approved.

BASIS OF ACCEPTANCE. The Basis of Acceptance requirements contained in §704-03 *Precast Concrete - General* shall apply.