

TO: SUPERSEDED BY EB 98-014 EFFECTIVE 4/24/98	<h1>ENGINEERING INSTRUCTION</h1> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p> <p>SUBJECT: DESIGN AND CONSTRUCTION OF PERMANENT CONCRETE TRAFFIC BARRIERS ON STRUCTURES</p> <p>Subject Code: 7.35-13 Technical Policy And Procedures Manual</p>
Distribution: <input checked="" type="checkbox"/> Main Office <input type="checkbox"/> Regions <input type="checkbox"/> Special	Code: <u>E.I. 81-4</u> Date: <u>JANUARY 6, 1981</u> Supersedes:
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This Engineering Instruction contains policy and rationale regarding the design and construction of permanent concrete traffic barriers on structures.

For the purpose of this document, the word "barrier" shall apply to both vertical-faced and safety-shaped (Jersey shape) permanent traffic barriers.

I. BACKGROUND

For the past two years, the Department has been aware of persistent random cracking of permanent concrete barriers on structures. In some cases, the barrier cracks have resulted in cracks in decks at the crack location in the barrier. Efforts to remedy the problem have not been uniformly successful. Currently, barriers are cast continuously between joints in the superstructure with dummy joints for crack control at approximately 10-foot centers. The longitudinal reinforcing bars are continuous between joints in the superstructure. This method of construction has not been successful in eliminating random cracking.

II. ACTION

As a result of the above, it has been decided that permanent concrete traffic barriers shall be built with crack control (dummy) joints at five-foot spacing.

The following instructions shall govern the design and construction of permanent concrete traffic barriers:

1. Dummy joints shall be spaced as closely to 5-foot centers as possible. They may be produced by putting a joint forming device in the barrier forms, saw-cutting hardened concrete, or by cutting into plastic concrete with concrete edging tools. In any case, the joint should be at least one inch deep and placed in the front, rear, and top face of the barrier.
2. The barrier shall be continuous between joints in the bridge superstructure.
3. Longitudinal reinforcing bars shall be continuous between joints in the bridge superstructure. Where splices are required, the length of the lap shall be sufficient to develop each bar.

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All details and specifications not affected by the above remain unchanged.

It is anticipated that use of this policy and rationale will confine cracking to the dummy joints, eliminating random cracking. It is also expected that propagation of cracks into the deck will be eliminated by the 5-foot joint spacing.

This policy and rationale are effective immediately. Where possible, projects which are designed but not let shall be revised by amendment.

Any questions regarding this Engineering Instruction should be directed to the Special Design Unit of the Structures Division at 518-457-2459.