

<p>TO: MODIFIED BY EI 78-042 EFFECTIVE 7/25/1978; EI 81-029 EFFECTIVE 10/1/1981 Main Office Regional Offices</p> <p>SUPERSEDED BY EB 98-014 EFFECTIVE 4/24/1998</p>	<p style="text-align: center;">ENGINEERING INSTRUCTION</p> <p style="text-align: center;">NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p> <p>SUBJECT: DESIGN CRITERIA FOR BRIDGES 77-1 BDD 77-44 "PROTECTIVE SCREENING ON NEW OR EXISTING STEEL RAILING"</p> <p>Subject Code: 7.35-2</p>
<p>Distribution:</p> <p><input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input type="checkbox"/> Special</p>	<p>Code: EI 77-39</p>
<p>APPROVED:</p> <p style="text-align: center;"><i>R. N. Kemp</i></p>	<p>Date: 8/26/77</p> <p>Supersedes: MODIFIES EI 77-001 DATE 1/24/77</p>

Attached are the following:

1. Design Criteria for Bridges 77-1
"Protective Screening for Bridges"
2. BDD Sheet 77-44 "Protective Screening on New or Existing Steel Railing"

The design criteria is in effect immediately.

The details on BDD 77-44 shall be followed wherever fencing is added to bridge railing, either as part of the original installation or as a separate installation. These details may have to be modified for installation on types of railings not shown on BDD Sheet 77-44. Special details shall be submitted to the Structures Subdivision prior to incorporation on plans. For consultation, contact the Special Design Unit on 457-3305.

DESIGN CRITERIA FOR BRIDGES 77-1

August 1977

PROTECTIVE SCREENING ON BRIDGES

I Rationale

With the advent of extensive freeway development in the United States the problem of objects being thrown or dropped from overpasses onto vehicles traveling below has become a serious one in some areas.

The problem of preventing such acts is complicated by several factors. The act of dropping objects from bridges may be willfully malicious by adults or just mischievous by children. There is no practical device or method yet devised that can be universally applied to prevent a determined individual from dropping an object from an overpass. Small objects can be dropped through screens. Solid plastic enclosures have been suggested but these are expensive, may be insufferably hot in summer, and may have the undesirable feature that they obscure and darken the pedestrian travelway, which is conducive to other forms of criminal or malicious activity. It is also a known fact that any type of physical preventive measure acts as a motivating challenge to some individuals.

In addition to the dropping or throwing of objects from overcrossing structures there is the related problem of children walking on parapets or railings with risk, not only to themselves but to the safety of motorists whose attention could well be distracted from the driving task sufficiently to result in a vehicular accident. Such activities on the part of children are most likely to occur near schools or playgrounds.

The discussion above relates to this problem as it affects freeways, but it should be recognized that the same potential problem exists whenever pedestrians pass over transportation facilities. Thus, the corrective measures discussed in this criteria statement are equally appropriate over a rail facility, and may be appropriate over navigable waterways.

The warrants which follow are intended to make the use of screening on new bridges mandatory in locations where the potential for hazard exists, unless the Regional Director has determined that it is clearly unnecessary. Further, they allow the Regional Director to use protective screening on other new bridges and on existing bridges where conditions make it desirable.

II Warrants

- A. Protective Screening shall be placed on all new vehicular bridges with sidewalks and pedestrian bridges over highways, rail facilities and navigable waterways, unless an exception is properly justified by the Regional Director.
- B. Protective Screening may be placed on new bridges without sidewalks, or on bridges over facilities other than identified in A., where justified by the Regional Director.

PROTECTIVE SCREENING ON BRIDGES

II Warrants (Continued)

- C. Protective Screening may be placed on existing bridges where justified by the Regional Director.

III Details

- A. Further information on this subject is available from "A Guide for Protective Screening of Overpass Structures" issued by AASHTO on December 1, 1968.
- B. Requests for exceptions required by warrant A. and justifications for inclusion required by warrant B., shall be submitted as an inclusion or attachment to the Bridge Site Data.
- C. The method of installation of protective screening, when used on existing bridges, shall be submitted to the Deputy Chief Engineer (Structures) for review and approval.
- D. Installation of protective screening on bridges shall be done in accordance with details issued by the Subdivision.
- E. Protective screening shall always be placed outside traffic railings or barriers so that the traffic railings or barriers will function properly and the screening and screening hardware will not be a hazard to the highway user. Section 1.1.9(A) of AASHTO Specifications for Highway Bridges requires traffic railings to provide a smooth, continuous face to traffic.

