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TO: Director, Preliminary Plan Review Bureau PRELIMINARY PLAN DESIGN RECEIVED <b>SUPERSEDED BY EB 98-014</b> <b>EFFECTIVE 4/24/98</b>	<b>ENGINEERING INSTRUCTION</b> NEW YORK STATE DEPARTMENT OF TRANSPORTATION SUBJECT: BRIDGE DESIGN MANUAL DESIGN CRITERIA FOR BRIDGES USE OF DRIP BARS Subject Code: 7.35-4-7
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APPROVED:  Deputy Chief Engineer, Structures	

The following provides the criteria to be used in determining whether drip bars should be used.

I. Rationale

The use of unpainted weathering steel for bridge superstructures results in the potential for staining bridge substructures during the period when the superstructure steel is developing a protective oxide coating. The staining is caused by iron oxide particulates carried by water falling on structural steel and flowing along the steel to substructure elements. The staining can be mitigated by use of deflectors, called drip bars, which are positioned on the top and bottom of the bottom flanges of girders in such a way as to cause the water on the girder to drop off before reaching a substructure element. Drip bars have been in use since about 1975 and are installed on the bottom flanges of the low end of all girders in a bridge cross-section. This usage has been questioned as a result of concern about bridge costs, and while the savings will probably not be measurable, it seems reasonable to restrict the use of drip bars to those locations where they are important.

II. Warrants

Drip bars will only be installed on bridges where the potential for substructure staining is considered detrimental to the aesthetics of the bridge, and then only on fascia stringers. It would be expected that drip bars would never be used on bridges over railroads, bridges over water or bridges over highways with stub abutments. Drip bars might be used when the bridge is easily visible to pedestrians, bicyclists or motorists if in a park or parklike area.

III. Details

The Preliminary Plan for bridges which may remain unpainted will contain a question to the Regional Office, asking whether drip bars should be used. The Regional Office determination will be accepted. If used, drip bars will only be installed on the low end of the top and bottom of the bottom flange of the fascia girders, up grade from piers or abutments.

Subject: BRIDGE DESIGN MANUAL - DESIGN CRITERIAL FOR BRIDGES - USE OF DRIP BARS

No reference is made to drip bars in any Division issuances other than this and Guideline Drawing GLD-MS1. When drip bars are used, the detail shown on that drawing shall be included in the plans. The note in the detail will be changed to read "Drip bars shall be attached to the low end of fascia girders."