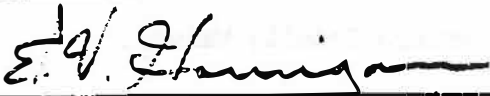


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| TO: SUPERSEDED BY EB 97-020 EFFECTIVE 4/4/97 | <h1>ENGINEERING INSTRUCTION</h1> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p> <p>SUBJECT: BRIDGE DESIGN MANUAL DESIGN CRITERIA FOR BRIDGES CLEANING CONCRETE EXPOSED TO VIEW</p> <p>Subject Code: 7.35-4-4</p> |
| Distribution: <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input checked="" type="checkbox"/> Special | Code: EI 82-26 |
| APPROVED:  E.V. HOURIGAN, Deputy Chief Engin. (Structures) | Date: 4/22/82 Supersedes: |

The following provides the criteria to be used in determining whether rust stains should be removed from substructure concrete.

I. Rationale

The use of unpainted weathering steel for bridge superstructures and the failure to protect partially embedded metal from corrosion during construction results in the potential for staining bridge substructures during construction. The staining is caused by iron oxide particulates carried by water to substructure elements. The Contractor is required by the Construction Specifications (Section 550-3.08) to clean all rust stains from substructure concrete. This work is customarily done near the end of the work on a bridge. In many, if not most, cases this cleaning has no practical benefit and, depending on the bridge, may be a high cost item. For this reason it seems reasonable to restrict the use of cleaning to those locations where it is aesthetically important.

II. Warrants

Stains shall be removed from substructure concrete only where they are considered detrimental to the aesthetics of the bridge. It would be expected that cleaning would never be required on bridges over railroads, bridges over water or bridges over highways with stub abutments. Cleaning might be required when the bridge is easily visible to pedestrians, bicyclists or motorists if in a park or parkline area. Cleaning may be required for portions of substructures, or for some substructure elements of a bridge but not all. For example, a pier adjacent to an underpassing highway might be cleaned while stub abutments for the same bridge would not.

III. Details

Preliminary plans for bridges will contain a question to the Regional Office asking whether cleaning of all or a portion of the substructure concrete should be required. The Regional Office determination will be accepted. If cleaning of all substructure concrete is required, the designer need take no further action.

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If cleaning of all or a portion of the substructure concrete is not required, the following special note shall be included in the plans for the structure. "The provisions of Section 555.3.08, Finishing, with regard to removing rust stains from concrete exposed to view are waived. Rust stains shall not be removed from the substructure on this bridge." This note shall be modified as required for use when only portions of piers or abutments will be cleaned, or when a pier or abutment is cleaned and the rest of the substructure elements are not.

The above note shall be included in the Standard Details Manual.