

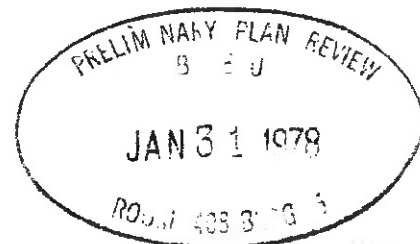
TO:	ENGINEERING INSTRUCTION NEW YORK STATE DEPARTMENT OF TRANSPORTATION	
	SUBJECT: FIELD SURVEY MANUAL FOR BRIDGE DECK OVERLAY PROJECTS Subject Code: 7.42	
Distribution: <input type="checkbox"/> Main Office <input type="checkbox"/> Regions <input checked="" type="checkbox"/> Special	Code: <u>EI 77-38</u> Date: <u>Sept. 1, 1977</u> Supersedes: <u>EI-77-1</u>	
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The Federal-Aid Highway Program Manual (Vol. 6, Ch. 7, Sec. 2, Subsec. 7) requires that a detailed field appraisal be made of any bridge deck to define the inadequacies of the existing deck when restoration of the deck is warranted. The Manual further states that such an appraisal should, where appropriate, include delamination detection, determination of reinforcing steel corrosion, determination of areas with inadequate concrete cover, and determination of the extent of chloride contamination. The Materials Bureau has been given the responsibility for developing suitable field procedures, acquiring the necessary equipment, and training Regional personnel to perform bridge deck surveys.

Since the issuance of a draft field manual, a pilot training program was conducted and the subsequent reviews have resulted in the final version entitled "Field Survey Manual for Bridge Deck Overlay Projects", copies of which accompany this instruction. This manual is a supplement to, not a replacement of, the Bridge Deck Evaluation Procedure Manual, issued by the Structures Subdivision.

The data required by FHWA is used to specify the areas of the deck requiring various types of repair in the design of the reconstruction project. Our experience to date has shown these procedures to be an accurate and valuable predictor of the repairs necessary to restore a deteriorated deck. In addition this data represents a valuable source of historic information for the prediction of bridge deck life, evaluation of deck design alternatives, and forecasting future maintenance needs. In order to provide uniformity in the collection and presentation of this data, it will be entered in the computer for analysis, mapping and storage. Computer storage of the data will be particularly useful in the analysis of the cost effectiveness of experimental reconstruction projects which require periodic resurveys of the deck condition.

The attached field manual presents the current state of the art of the measurement procedures used to determine the surface condition of a bridge deck. It is specific and contains detailed instructions to be followed by the survey crews in the field.



Subject: Techniques for evaluation of bridge decks.

The manual makes reference to a computer mapping program for the preparation of concrete removal maps which will be available through the Materials Bureau. The program will produce four maps for each slab-span surveyed showing the depth of cover, corrosion potential, and the two classes of concrete removal other than scarification. The 11" x 17" original and four 8½" x 11" copies of each map will be returned to the Region for use in the "Deck Evaluation Report - Monolithic Deck Reconstruction Projects" required by the Structures Subdivision. In addition to the savings to be realized in the man-hours required to produce such maps, use of the computer produced maps will standardize the format of the maps both within and between Regions.

Spall, delamination and crack data will have to be added to the computer maps by hand in the Region. The resultant maps will be included in the design report and eventually in the contract plans after transfer to a reproducible, such as Mylar.

The Structures Subdivision will issue a new procedure manual for the preparation of deck evaluation reports fully incorporating the techniques described in the Field Survey Manual for Bridge Deck Overlay Projects. Until that time the methods described in the subject manual should be utilized as a part of the bridge reconstruction evaluations as noted above.

Any questions regarding the content of the manual, conduct of the survey, or the computer output should be referred to the Field Services Sections of the Materials Bureau. Questions regarding the use of this data in the design of the deck reconstruction should be referred to the Structures Design and Construction Subdivision.