

Bridge Deck Patching

PURPOSE OF REVIEW

Bridge deck rehabilitation projects are frequently subject to large variations between the amount of deck repair shown on the plans and the actual deck repair work completed. The primary purpose of this review is to evaluate the effectiveness of current policies, practices and procedures that the (STA) Department of Transportation (DOT) implements in estimating and tracking the quantities for bridge deck patching.

Furthermore, effective January 1, 2001 the DOT issued new mixture requirements for portland cement concrete patching. The secondary purpose of the review is to evaluate the usage of these new mixtures and the possible need for additional high early strength mixtures.

REVIEW TEAM

FHWA

STA

SCOPE OF REVIEW

The information contained in the 1998 Bridge Deck Rehabilitation Process Review will be used as a resource for review. Findings and resolution actions from the 1998 review, that apply to deck patching, will be examined to see if the resolution actions have been implemented and, if so, their effectiveness.

This January (STA) is introducing the use of four new concrete mix designs for bridge deck patching. The mix designs are PP-1, PP-2, PP-3 and PP-4. This review will also investigate the use of these mix designs. The review will determine if more guidance is needed for these mix designs.

Because STA is increasing the use of A+B and lane rental contracts, contractors may want to minimize patch cure times before opening lanes to traffic. The need for more rapid curing patches will be evaluated in this review.

Reviews will be conducted at STA District Offices. Interviews with District Office personnel who are responsible for applying the current bridge deck patching criteria will be an important part of the team's activities. These interviews will allow the review team to become familiar with the current procedures and practices used to estimate quantities for bridge deck patching.

A sampling of files for deck patching projects that are currently being developed, or which have been let within the last few years, will be reviewed. Construction records for active or completed projects will be reviewed in order to compare actual deck repair quantities with plan quantities. Also, past completed deck

<input type="checkbox"/> Delamination Survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Ground Penetrating Radar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Infrared Thermography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How much do the final construction quantities vary from the estimated quantities for each method indicated above?

	0	10	20	30	40	50	60	70	80	90	100%
<input type="checkbox"/> Deck Survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> NBIS/PONTIS Reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Delamination Survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Ground Penetrating Radar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Infrared Thermography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What coordination is done between the District Bridge Maintenance Unit, District Construction and Bureau of Bridges and Structures to track the final construction quantities for deck repair?
4. How much time is there between the initial deck survey and the deck patching project being let.

Average length of time: _____ Months

Maximum length of time: _____ Months

What is the maximum amount of time that can pass before a new survey will be done.

5. Which of the new P.C.C. Patching Mixtures has the District been using for deck repair projects?
6. Do you see a need for additional patching mixtures, such as more rapid set mixes?