Statement No. 01

Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 08/24/2010 | **PROJECT AREA:** Maintenance

TITLE: Non-Destructive Testing Of Bridge Decks Poured On Stay-In-Place Metal Forms

PROBLEM STATEMENT:

Stay-in-place metal forms are widely used in the construction of bridge decks in the State of Arkansas. Despite their advantages, stay-in-place forms hide the deterioration of bridge decks due to the inability of inspecting the bridge deck bottom fibers. This hidden condition may result in long-term structural problems that ends with expensive repairs and/or the replacement of the bridge deck. This research project focuses on developing techniques and guidelines for the Non-Destructive Testing (NDT) of bridge deck conditions using ultra-sonic waves. This economic, non-destructive, and expedited technique will help AHTD personnel perform the inspection tasks in a more efficient way.

OBJECTIVES:

The main objectives of this project are:

1) Develop non-destructive testing guidelines for bridge deck bottom fibers hidden with stay-in-place metal forms.

2) Increase the efficiency of the bridge deck inspection process through this economic, user-friendly, and environmentally compliant technique.

Form of Research Implementation:

The results of this research will be used by AHTD personnel to inspect the conditions of bridge decks hidden by the stay-in-place metal forms. This user-friendly non-destructive technique will positively impact the efficiency of the inspection process.

Total Estimated Cost and Project Duration: **$** 160,000 **and** 24 **months.**

PREPARED BY: Amin K. Akhnoukh **and** Micah Hale

AGENCY: University of Arkansas at Little Rock and University of Arkansas at Fayetteville

PHONE: (501) 683-7758 **REVIEWER:** E.C. Wright-Kehner

ADVISORY COUNCIL RANKING	TRC RANKING	Statement Combined with Statement Number(s)
23		

Revised 8/25/2008