

Transportation Pooled Fund Program

Project Title: Structural Testing of UHPC Connections Between Precast Bridge Deck Elements		
Project Manager and Phone Number: Ben Graybeal Research Structural Engineer FHWA Turner-Fairbank Highway Research Center 202-493-3122	Project No: TPF-5(217)	Project is: <input type="checkbox"/> PLANNING <input checked="" type="checkbox"/> R&D
Reporting Period: January 1, 2010 - March 31, 2010	Multi Year Project	
Description of Work Performed and Progress: The six test specimens were fabricated and delivered to Turner-Fairbank prior to the official start of the project. Cyclic testing of slab specimens as described in the workplan was continued. <ul style="list-style-type: none"> - Specimen 6B16B2 was cycled through 60k cycles from 2 - 16 kips. An unintended overload of 70 kips occurred causing significant cracking of the specimen including debonding of the HPC/UHPC joint interface. The load range was increased to 3 - 21.3 kips. 10 million cycles completed on April 14, 2010. No additional damage was noted as a result of the cyclic loading. Work planned for 2010 2nd qtr: <ul style="list-style-type: none"> - Specimen 6B16B2 will be cyclically loaded from 3 - 32 kips. This load range will induce stresses which exceed the long-life fatigue limit of the rebar across cracked sections and may result in tensile fatigue-related failure of the rebar or debond fatigue-related failure of the spliced rebar in the joint. If 1 million cycles does not result in degradation, the cyclic load range will increase to 3 - 40 kip. - The 5 previously cycled panels will be statically loaded to failure. - The draft final report will be compiled. 		
STATUS AND COMPLETION DATE <div style="text-align: center;">Percentage of work completed to date for total project Project is: <u>60</u>%</div> <div style="text-align: center;"><u>x</u> on schedule _____ behind schedule, explain:</div> <p>The cyclic testing has fallen behind schedule due to problems with the testing of specimen 6B16B2. Fortunately, the unintended overload resulted in the creation of a favorable damage pattern thus allowing the investigation of additional performance aspects of this type of joint. It is hoped that the project can still be completed on time through compression of the time allotted for report writing.</p> <div style="text-align: center;">Expected Completion Date: <u>June 30, 2010</u></div>		

Project Manager