



CAIT

Center for Advanced Infrastructure & Transportation
Rutgers, The State University of New Jersey

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT

Project Title:	A Proposal for the Development of High Performances Concrete for Transportation Structures in New Jersey		
RFP NUMBER: N/A	NJDOT RESEARCH PROJECT MANAGER: Tony Chmiel		
TASK ORDER NUMBER: 62 / 4-23806	PRINCIPAL INVESTIGATOR: Hani Nassif		
Project Starting Date: 04/30/2001 Original Project Ending Date: 2/1/2003 Modified Completion Date: 08/31/2003	Period Covered: 1st Quarter 2004		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Search	5%	0%	100%	5%
1. Collection of Data and Preparation of Samples During the Field Samples	20%	0%	100%	20%
2. Evaluation of Field Samples	10%	0%	100%	10%
3. Creep and Shrinkage Set-up and Testing	50%	0%	100%	50%
4. Preparation of Specifications for HPC	10%	5%	95%	9.5%
Final Report	5%	0%	100%	5%
TOTAL	100%			99.5%

Project Objectives:

To develop high performance concrete mix design and specifications for transportation structures using resources readily available in New Jersey.

Project Abstract:

The primary objective of this research is to identify high performance concrete (HPC) mix proportions that are suitable for transportation infrastructure in New Jersey. Two classes of concrete with compressive strengths ranging from 6 to 12 ksi are developed. Extensive information is available in the literature covering various aspects of HPC. Show case projects have been built in a number of northeast states including New Hampshire and Virginia. The research plan involves: (i) review of existing information, (ii) selection of mix proportions suitable for New Jersey using local aggregates and the proportions in Class A concrete, (iii) evaluation of trial mixes prepared in the laboratory and at least one ready-mix industry, (iv) evaluation of mechanical and long-term properties, and (v) preparation of specifications for the implementation of HPC in future projects.

1. Progress this quarter by task:

- Updated creep data to reflect test duration of 180 days minimum in each creep test set-up.
- Final report completed.

2. Proposed activities for next quarter by task:

N/A

3. List of deliverables provided in this quarter by task (product date):

N/A

4. Progress on Implementation and Training Activities:

N/A

5. Problems/Proposed Solutions:

N/A

Department of Civil and Environmental Engineering
623 Bowser Rd. Piscataway NJ 08854-8014
Tel : 732-445-0579 Fax: 732-445-0577



CAIT

Center for Advanced Infrastructure & Transportation
Rutgers, The State University of New Jersey

Total Project Budget	\$384,320.00
Modified Contract Amount:	
Total Project Expenditure to date	\$384,320
% of Total Project Budget Expended	100%

* These are approximate expended amounts for the project; these estimates are for reference only and should not be used for official accounting purposes. For a more accurate project accounting please review the quarterly invoice for this project.