



CAIT

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

QUARTERLY PROGRESS REPORT

Project Title:	Finite Element Analysis of Bridge Approach and Transition Slab		
RFP NUMBER:	NJDOT RESEARCH PROJECT MANAGER: Robert Sauber		
TASK ORDER NUMBER/Study Number: 88-03 / 4-23933	PRINCIPAL INVESTIGATOR: Hani Nassif		
Period Starting: 6/1/2000 - 5/31/2001 (Start-End Date of Study)	Period Ending: 12/31/2000		

Task	% of Total	% of Task this quarter	% of Task to date	% of Total Complete
Literature Search	10%	10%	50%	5%
Site Selection, field observation, and parameter designation	30%	0%	0%	0%
Finite element model verification and development	25%	20%	60%	15%
Parametric Study	15%	10%	10%	1.5%
Progress Reports	15%	10%	10%	1.5%
Final Report	5%	0%	0%	0%
TOTAL	100%			23%

1. Progress this quarter by task:

- A. The finite element model under development will be used in the parametric analysis. The current model uses two approaches for modeling the soil underneath the approach slab. One model considers the soil as a series of equivalent springs having a linear stiffness with a constant k_s while the slab is a beam on elastic foundation. The slab is modeled using beam, shell, and brick elements. Another model considers the soil as a series of actual layers compacted with actual soil properties. This later model is currently being used in the parametric analysis for checking which design alternative performs better.

2. Proposed activities for next quarter by task

- A. The parametric analysis will use the model with the soil idealized as springs and will be used for various approach slab design alternatives. The calibration of the model will be done using design examples from literature for known cases such as footing on soil or drilled shafts. Observations of actual behavior of approach slabs in the field will be coordinated with NJDOT Staff.

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

N.A.

4. Progress on Implementation and Training Activities

N.A.

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



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5. Problems/Proposed Solutions

N.A.

6. Budget Summary

Task Order Number/Study Number:	88-03 / 4-23933
Current Task Order Budget (# of years) 1 Year	\$48,220.00
Actual Expenditure to date against current task order	\$17,307
% of current task order budget expended	35.9%

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

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