Quality control in high way engineering

ABSTRACT

Because of quick construction and cost effectiveness, adjacent precast, prestressed  
box girder bridges have been used nowadays more often for short-span bridges, and  
the standardization of this modular bridge is highly desired. Maryland intends to  
revise its current practice of using tie-rods for the transverse post-tensioning in slab  
bridge design. The new design of using high strength rods will provide a more tightly  
integrated modular slab bridge system with higher post-tensioning forces. With the  
new design, the Maryland State Highway Administration is highly interested in the  
performance of the new design, especially compared with the old design. This thesis  
presents the procedure of test, live load test results and analysis results in association  
with the finite-element model simulated in a newly-built bridge.