

FINAL RESEARCH REPORT

**A Pilot Study
on
the Development of Automated Stress Path
Triaxial Test Apparatus.**

Presented to
Bureau of Research and Consultancy
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ABSTRACT

The concept of a *stress path* has been around for many years as a practical engineering tool for the solution of stability and deformation problems of soils. Very often in the geotechnical engineering practice, if we understand the complete stress path of the problem, we are well along the way towards the solution of that problem.

In conventional triaxial apparatus, the axial stress is applied by strain-controlled loading and it is difficult to vary the axial stress in a controlled way. This pilot project will study the possibility of modifying the existing conventional triaxial test system in the Civil Engineering Laboratory to perform stress path test. By proper interfacing with a computer, the system can be made more flexible in performing other variations of triaxial tests. Emphasis has been made in this pilot study to design an interface module that will link the ADOS MM700 data acquisition system used with the conventional triaxial apparatus to a personal computer. The AutoLAB development system is used as a software development tool on the MM700 datalogger using a personal computer.

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INTRODUCTION

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