

SYMPOSIUM ON APPLICATIONS OF SOIL TESTING IN HIGHWAY DESIGN AND CONSTRUCTION

INTRODUCTION

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Highway transportation today constitutes one of the most vital elements of the U. S. economy. The tremendous increase in highway construction during the past ten years and the still greater increase planned for the next decade has necessitated constant improvement in the use of construction materials. This is particularly true in the case of soils, and increases in construction have been paralleled by a corresponding increase in the use of soil testing and the applications of soil mechanics principles in the design and construction of major projects.

Recognition of these developments prompted the Executive Committee of ASTM Committee D-18 on Soils to suggest the presentation of a symposium at the 1958 Annual Meeting in which some of the applications of soil testing in highway design and construction might be summarized and discussed.

Two papers in the symposium describe examples of the use of soil engineering in major projects. A third paper surveys the use of drilling machines, power au-

gers, and earth resistivity methods for highway exploration, while additional papers describe the preparation of soil maps for use in planning the relocation and improvement of existing roads, the location of new highways and the more selective use of soils in road construction.

Finally, a series of three papers discuss different aspects of soil compaction. It has long been recognized that methods of compaction control based on a standard impact compaction test are not necessarily suitable for cohesionless soils, and the results of alternative methods of determining the maximum and minimum densities of these types of soil are presented and analyzed. The use of typical moisture-density curves in the performance of compaction tests for embankment construction and a method of soil classification based on compaction characteristics form the subjects of other papers in the symposium.

It is hoped that the efforts of the authors, who gave generously of their time and energy in preparing and presenting the papers in the symposium, will have some constructive influence in the enormous program of highway construction which lies ahead.

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