SOIL CLASSIFICATION By SPYROS ALEXANDROU

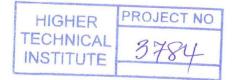
Project report Submitted to the Department of Civil Engineering of the Higher Technical Institute Nicosia-Cyprus

C/1048

In partial fulfillment of the requirements for the diploma of

Technician Engineer in Civil Engineering

June 2009



Objectives

The scope of work of this project is to introduce, define and finally classify the various types of soil.

Although it seemed in the beginning to be a typical procedure of categorizing a vast volume of information, it was realized at the very early stages of the study that it was much more a complex matter than just listing various soils.

The complexity of this work is based on the parameters which should be taken into account to establish the groups of soil. These parameters are mainly the way of formation, the chemical composition, the general use of soil, the geography and depth at which it is found, the commercial and construction exploitation of soil etc. Due to the above number of parameters different systems were developed in various countries. It was difficult to deal with all of the existing classification systems and so it was decided to include the ones that are more used and generally accepted, without implying in any way that the ones not included or just mentioned, are not of importance.

LIST OF CONTENTS:

Acknowledgements

Objectives

		<u>Pages</u>	
<u>CHA</u>	PTER I	1-15	
1.1	Introduction – Soil classification in Cyprus		
1.2	What is in soil	ð	
1.3	Soil Structure		
1.4	Soil Profile		
1.5	Difference between soils		
1.6	Engineering properties of soils		
1.7	Practical significance of soil classification		
<u>CHA</u>	PTER II	16-22	
2.1	The Study of soil mechanics		
2.2	Soil classification and formation		
2.3	Purpose of soil testing		
2.4	Advantages of laboratory testing		
<u>CHAPTER III</u>			
3.1	Consistency of remolded soils		
	3.1.1 Alterberg limits		
	3.1.2 Liquid limit		
	3.1.3 Plastic limit		
3.2	Soil plasticity		
3.3	Plasticity chart		
3.4	Sieve Analysis		
3.5	Consistency tests and indices (Alterberg limit tests)		
	3.5.1 Significance of test		
	3.5.2 Synopsis of test methods		
	3.5.3 Test results		

	<u>Pages</u>
CHAPTER IV	39-56
4.1 Soil Classification and Description	
4.1.1 Soil classification systems	
4.1.2 British soil classification system	
4.2 American Association of State Highway and Transportation	
Officials – Classification System for Soils	
General	
4.3 Unified soil classification system	ş
4.3.1 Development	
4.3.2 Classifying the soils	
CHAPTER V	57-71
5.1 Field identification tests	
5.2 Soil classification system of England and Wales	
5.3 Soil classification in Russia	

Conclusion

References