

Principles of Soil Mechanics

Ian Menard

Principles of Soil Mechanics

Editor: Ian Menard



Callisto Reference, 118-35 Queens Blvd., Suite 400, Forest Hills, NY 11375, USA

Visit us on the World Wide Web at: www.callistoreference.com

Callisto Reference, 2018

This book contains information obtained from authentic and highly regarded sources. All chapters are published with permission under the Creative Commons Attribution Share Alike License or equivalent. A wide variety of references are listed. Permissions and sources are indicated; for detailed attributions, please refer to the permissions page. Reasonable efforts have been made to publish reliable data and information, but the authors, editors and publisher cannot assume any responsibility for the vailidity of all materials or the consequences of their use.

ISBN: 978-1-64116-019-3 (Paperback)

The publisher's policy is to use permanent paper from mills that operate a sustainable forestry policy. Furthermore, the publisher ensures that the text paper and cover boards used have met acceptable environmental accreditation standards.

Trademark Notice: Registered trademark of products or corporate names are used only for explanation and identification without intent to infringe.

Printed in China.

00077532

Cataloging-in-Publication Data

Principles of soil mechanics / edited by Ian Menard.

p. cm.

Includes bibliographical references and index.

ISBN 978-1-64116-019-3

1. Soil mechanics. 2. Soil physics. I. Menard, Ian.

TA710 .P75 2018 624.151 36--dc23

Table of Contents

	Preface	VII
Chapter 1	Understanding Soil Mechanics	1
	Soil Mechanics	1
	Soil Classification	23
Chapter 2	Soil Properties: An Overview	44
	Soil Phases	44
	Soil Fertility	52
	Fertilizer	56
	Soil Chemistry	74
	Clay Minerals	75
Chapter 3	Land Retrogression and Degradation	81
	Soil Retrogression and Degradation	81
	Pressure on Ground	90
	Shear Strength (Soil)	91
Chapter 4	Soil Contamination and Soil Permeability	111
	Soil Contamination	111
	Mining	119
	Pore Space in Soil	143
	Soil Permeability	146
Chapter 5	Soil Conservation: An Integrated Study	176
	Soil Conservation	176
	Soil Formation	181
	Permissions	

Index

Principles of Soil Mechanics

About the Book

Soil mechanics studies the behavior and attributes of soil. The subject of soil mechanics helps in developing an understanding of buildings or structures that are supported by soil. The strength of the soil can be measured by the friction and aggregation found in it. It plays a crucial role in geotechnical engineering. For all those who are interested in soil mechanics, this book can prove to be an essential guide. Constant effort has been made to make the understanding of the concepts of soil mechanics as easy and informative as possible, for the readers.

About the Editor

Ian Menard received his MSc in Soil Mechanics from Imperial College London, United Kingdom. His primary areas of scholarly and research interests lie in the fields of soil classification and permeability. He has won several awards for his knowledge and contributions to this field. Menard is a renowned lecturer of undergraduate programs and travels extensively for educating students across the globe.



