

# Geotechnical Aspects Of Landfill Design And Construction

Design, Construction, and Monitoring of Landfills  
 Geotechnology of Waste Management  
 Agricultural Research for Sustainable Food Systems in Sri Lanka  
 Geotechnical Aspects of Waste Disposal  
 Waste Containment Systems, Waste Stabilization, and Landfills  
 Geotechnical Design Considerations for Hazardous Waste Landfill Facilities  
 Investigation of Geotechnical and Hydraulic Aspects of Landfill Design and Operation  
 Geotechnical aspects of waste landfills  
 Geotechnical Hazards  
 Environmental Geotechnics  
 Geotechnical Aspects of Landfill Design  
 Engineering Geology and the Environment  
 Geotechnical Investigations and Improvement of Ground Conditions  
 Solid Waste Landfilling  
 Geotechnical Engineering of Landfills  
 Design of Landfills and Integrated Solid Waste Management  
 Geotechnical Aspects of Landfill Construction and Design  
 Sustainable Practices for Landfill Design and Operation  
 Introductory Geotechnical Engineering  
 Sanitary Landfill Design and Operation  
 Earthquake Design and Performance of Solid Waste Landfills  
 Advances in Environmental Geotechnics  
 Geotechnical Aspects of Landfill Design and Construction  
 Proceedings of the 8th International Congress on Environmental Geotechnics Volume 2  
 Geotechnical Practice for Waste Disposal  
 Geotechnical and Environmental Aspects of Waste Disposal Sites  
 Planning and Urban Design Standards  
 Geotechnical Aspects of Waste Disposal  
 Official Gazette  
 Geotechnical Engineering Calculations and Rules of Thumb  
 Municipal Landfill Leachate Management  
 Control and Treatment of Landfill Leachate for Sanitary Waste Disposal  
 Geotechnical Aspects of Bottom Sealing Existing Hazardous Waste Landfills by Injection Grouting  
 Geoenvironmental Engineering  
 Geotechnical Aspects of Waste Landfills Construction  
 Site Investigation using Resistivity Imaging  
 Sanitary Landfill Design, Construction, and Evaluation  
 Geotechnical Considerations in Landfill Design  
 Coupled Phenomena in Environmental Geotechnics  
 Requirements for Hazardous Waste Landfill Design, Construction, and Closure

*Geotechnical Aspects Of Landfill  
Design And Construction*

Downloaded from <ftp.wtvq.com> by guest

## **JAEDEN DECKER**

*Design, Construction, and Monitoring of Landfills* Springer Nature  
 Municipal solid waste (MSW) disposal is an ever-increasing problem in many parts of the world, especially in developing countries. To date, landfilling is still the preferred option for the disposal and management of MSW due to its low-cost operation. While this solution is advantageous from a cost perspective, it introduces a high level of potential pollutants which can be detrimental to the local environment. *Control and Treatment of Landfill Leachate for Sanitary Waste Disposal* presents research-based insights and solutions for the proper management and treatment of landfill leachate. Highlighting relevant topics on emerging technologies and treatment innovations for minimizing the environmental hazards of waste disposal, this innovative publication contributes to filling in many of the gaps that exist in the current literature available on leachate treatment. Waste

authorities, solid waste management companies, landfill operators, legislators, environmentalists, graduate students, and researchers will find this publication beneficial to their professional and academic interests in the area of waste treatment and management.

*Geotechnology of Waste Management* Springer  
 Subsurface investigation is the most important phase of any civil engineering construction or development activities. The geologic conditions can be extremely complex, variable, and subject to change with time; soil test borings and in-situ tests are employed to obtain subsoil information. Resistivity Imaging (RI) is a non-destructive, fast and cost-effective method of site investigation and soil characterization. Site Investigation using Resistivity Imaging aims to summarize pertinent details of RI in site investigation for geotechnical and geo-environmental applications. It aims to bridge the gap that currently exists between the geotechnical/geo-environmental and geophysical engineering community. The geotechnical and geo-environmental

engineers will be able to use and understand geophysical data and utilize the information for their design. Features: First comprehensive handbook aimed at engineers that summarises pertinent details of Resistivity Imaging (RI) in site investigation for geotechnical and geo-environmental applications. for geotechnical and geo-environmental engineers, making it possible to interpret geophysical data and utilize the information for their design. explaining the advantages of RI over conventional site investigations: continuous image, large coverage, low cost, quick and easy data processing. It will be a comprehensive handbook for the application of RI in geotechnical and geo-environmental site investigations.

**Agricultural Research for Sustainable Food Systems in Sri Lanka** PWS Publishing Company

Despite the importance of preserving the environment in our developing world, activity involving the extraction of natural resources and the disposal of waste continues to increase. Such operations need to be conducted in a carefully-controlled manner, protecting both the natural environment and the communities who live in the vicinity. Every four years the GREEN (Geotechnics Related to the Environment) symposia are held, recognizing the major contribution that geotechnical engineering makes towards achieving the afore-mentioned goals. The meeting provides an international forum for the exchange of ideas, experiences and innovations. The GREEN 4 meeting discussed engineered disposal of waste in landfills; land contaminated by waste disposal and fluid flows; industrial waste dumps from mineral mining and extraction; and environmental management. The book contains expertise from nineteen countries around the world, and provides an integrated view of the latest research and practice in waste disposal. New and evolving ideas, ongoing concerns and developments throughout the world are discussed.

*Geotechnical Aspects of Waste Disposal* CRC Press

Increasing environmental awareness has emphasized the many engineering situations in which there are potential environmental impacts. This text provides a guide for engineers who are likely to be involved in such situations.

*Waste Containment Systems, Waste Stabilization, and Landfills* John Wiley & Sons

Solid Waste Landfilling: Concepts, Processes, Technology provides information on technologies that promote stabilization and minimize environmental impacts in landfills. As the main challenges in waste management are the reduction and proper treatment of waste and the appropriate use of waste streams, the book satisfies the needs of a modern landfill, covering waste pre-treatment, in situ treatment, long-term behavior, closure, aftercare, environmental impact and sustainability. It is written for practitioners who need specific information on landfill construction and operation, but is also ideal for those concerned about the possible return of these sites to landscapes and their subsequent uses for future generations. Includes input by international contributors from a vast number of disciplines Provides worldwide approaches and technologies Showcases the interdisciplinary nature of the topic Focuses on sustainability, covering the lifecycle of landfills under the concept of minimizing environmental impact Presents knowledge of the legal framework and economic aspects of landfilling

**Geotechnical Design Considerations for Hazardous Waste Landfill Facilities** CRC Press

The contributions to this volume examine: geotechnical hazard acknowledging the diversity of local ground conditions and environmental factors which play a decisive role in designing engineering structures in Danubian countries.

*Investigation of Geotechnical and Hydraulic Aspects of Landfill*

*Design and Operation* John Wiley & Sons

Geotechnical Investigation and Improvement of Ground Conditions covers practical information on ground improvement and site investigation, considering rock properties and engineering geology and its relation to construction. The book covers geotechnical investigation for construction projects, including classic case studies with geotechnical significance. Additional sections cover soil compaction, soil stabilization, drainage and dewatering, grouting methods, the stone column method, geotextiles, fabrics and earth reinforcement, miscellaneous methods and tools for ground improvement, geotechnical investigation for construction projects, and forensic geotechnical engineering. Final sections present a series of site-specific case studies. Dedicated to ground improvement techniques and geotechnical site investigation Provides practical guidance on site-specific geotechnical investigation and the subsequent interpretation of data Presents site-specific case studies with geotechnical significance Includes site investigation of soils and rocks Gives field-oriented information and guidance Geotechnical aspects of waste landfills Springer Geoenvironmental Engineering covers the application of basic geological and hydrological science, including soil and rock mechanics and groundwater hydrology, to any number of different environmental problems. \* Includes end-of-chapter summaries, design examples and worked-out numerical problems, and problem questions. \* Offers thorough coverage of the role of geotechnical engineering in a wide variety of environmental issues. \* Addresses such issues as remediation of in-situ hazardous waste, the monitoring and control of groundwater pollution, and the creation and management of landfills and other above-ground and in-situ waste containment systems.

**Geotechnical Hazards** Woodhead Publishing

Food systems involve a range of activities concerning food production, processing, distribution, marketing and trade, preparation, consumption and disposal. They encompass the path of food from the farm to the dinner table, meeting the food and nutritional needs of a nation. When such systems do so without sacrificing the needs of future generations, they are referred to as "Sustainable Food Systems." The natural and physical environment, infrastructure, institutions, society and culture, and policies and regulations within which they operate, as well as the technologies they adopt, shape these systems' outcomes. Making food systems more sustainable is a key priority for all nations, and Sri Lanka is no exception. Food systems deliver optimal performance when the policy and regulatory environment is conducive, institutions are supportive, and a combination of agricultural research investments and an efficient extension system generates the technologies and scientific evidence required for sound policymaking and agenda setting. Further, agricultural research can generate essential findings, technologies and policies for sustainable agricultural development - across disciplines, sectors and stakeholder groups. This book shares valuable insights into research conducted in the broad food and agriculture sectors in Sri Lanka. It also discusses the status quo in related disciplines, and outlines future research directions. Accordingly, it offers a valuable source of reference material for researchers, students, and stakeholders in the food and agriculture sectors, while also highlighting the types of support that policymakers and other decision-makers can provide.

*Environmental Geotechnics* Springer Nature

Solid waste management is a global concern, and landfilling remains the predominant management method in most areas of the world. This book provides a comprehensive view of state-of-

the-art methods to manage landfills more sustainably, drawing upon more than two decades of research, design, and operational experiences at operating sites across the world. Sustainable landfills implement one or multiple technologies to control and enhance the degradation of waste materials to realize a multitude of potential benefits during or shortly after the landfill's operating phase. This book presents detailed approaches in the development, design, operation, and monitoring of sustainable landfills. Case studies showcasing the benefits and challenges of sustainable landfill technologies are also provided to give the reader additional context. The intent of the book is to serve as a reference guide for regulatory personnel, a practical tool for designers and engineers to build on for site-specific applications of sustainable landfill technologies, and a comprehensive resource for researchers who are continuing to explore new and better ways to more sustainably manage waste materials.

*Geotechnical Aspects of Landfill Design* Wiley-Interscience

Earth scientists and geotechnical engineers are increasingly challenged to solve environmental problems related to waste disposal facilities and cleanup of contaminated sites. The effort has given rise to a new discipline of specialists in the field of environmental geotechnology. To be effective, environmental geotechnologists must not only be armed with the traditional knowledge of fields such as geology and civil engineering, but also be knowledgeable of principles of hydrogeology, chemistry, and biological processes. In addition, the environmental geotechnologist must be completely up to date on the often complex cadre of local and national regulations, must comprehend the often complex legal issues and sometimes mind-boggling financial implications of a project, and must be able to communicate effectively with a host of other technical specialists, regulatory officials, attorneys, local land owners, journalists, and others. The field of environmental geotechnology will no doubt continue to offer unique challenges. The purpose of this book is to summarize the current state of practice in the field of environmental geotechnology. Part One covers broadly applicable principles such as hydrogeology, geochemistry, and contaminant transport in soil and rock. Part Two describes in detail the underlying principles for design and construction of new waste disposal facilities. Part Three covers techniques for site remediation. Finally, Part Four addresses the methodologies for monitoring. The topics of 'waste disposal' and 'site remediation' are extra ordinarily broad.

Engineering Geology and the Environment CRC Press

The aim of the book is to equip the student and practicing engineer with the basic knowledge needed for the geotechnical design of waste facilities, the closure and improvement of waste facilities, and construction on waste.

*Geotechnical Investigations and Improvement of Ground Conditions* IGI Global

By combining integrated solid waste management with the traditional coverage of landfills, this new edition offers the first comprehensive guide to managing the entire solid waste cycle, from collection, to recycling, to eventual disposal. \* Includes new material on source reduction, recycling, composting, contamination soil remediation, incineration, and medical waste management. \* Presents up-to-date chapters on bioreactor landfills, wetland mitigation, and landfill remediation. \* Offers comprehensive coverage of the role of geotechnical engineering in a wide variety of environmental issues.

Solid Waste Landfilling Thomas Telford

This is the third volume of the proceedings of the 8th International Congress on Environmental Geotechnics (ICEG 2018), held on October 28 - November 1, 2018 in Hangzhou, China. The theme of the congress is "Towards a Sustainable

Geoenvironment", which means meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. Under this theme, the congress covers a broad range of topics and provides an excellent opportunity for academics, engineers, scientists, government officials, regulators, and planners to present, discuss and exchange notes on the latest advances and developments in the research and application of environmental geotechnics.

*Geotechnical Engineering of Landfills* Springer Science & Business Media

The most comprehensive design reference available on remediation techniques, waste disposal methods and various waste containment systems. Covers several important new issues such as the regulatory structure of RCRA Subtitles C and D; subsurface flow and transport of contaminants; liner systems, leachate collection and removal systems for landfills; and seismic stability analysis of landfills. Describes new waste stabilization technologies including the process of converting non-solid toxic waste into inert solids.

Design of Landfills and Integrated Solid Waste Management

Elsevier

"Advances in Environmental Geotechnics" presents the latest developments in this interdisciplinary field. The topics covered include basic and advanced theories for modeling of geoenvironmental phenomena, testing and monitoring for geoenvironmental engineering, municipal solid wastes and landfill engineering, sludge and dredged soils, geotechnical reuse of industrial wastes, contaminated land and remediation technology, applications of geosynthetics in geoenvironmental engineering, geoenvironmental risk assessment, management and sustainability, ecological techniques and case histories. This proceedings includes papers authored by core members of ISSMGE TC5 (International Society of Soil Mechanics and Geotechnical Engineering---Environmental Geotechnics) and geoenvironmental researchers from more than 20 countries and regions. It is a valuable reference for geoenvironmental and geotechnical engineers as well as civil engineers. Yunmin Chen, Xiaowu Tang, and Liangtong Zhan are Professors at the Department of Civil Engineering of Zhejiang University, China.

Geotechnical Aspects of Landfill Construction and Design John Wiley & Sons

Integrating and blending traditional theory with particle-energy-field theory, this book provides a framework for the analysis of soil behaviour under varied environmental conditions. This book explains the why and how of geotechnical engineering in an environmental context. Using both SI and Imperial units, the authors cover: rock mechanics soil mechanics and hydrogeology soil properties and classifications and issues relating to contaminated land. Students of civil, geotechnical and environmental engineering and practitioners unfamiliar with the particle-energy-field concept, will find that this book's novel approach helps to clarify the complex theory behind geotechnics.

**Sustainable Practices for Landfill Design and Operation**

CRC Press

This book is divided into seven chapters, which address various leachate landfill management issues such as the quality, quantity and management of municipal landfill leachate, together with new methods. There are many methods available for the treatment and management of municipal landfill leachate. The waste management methods presented here can be applied in most third-world countries, due to the lack of waste separation and high organic content of waste. The book provides descriptions and a hierarchy of waste management, reviews the history of solid waste disposal, and covers a range of topics, including: leachate and gas generation in landfills; natural

attenuation landfills; landfill site selection; leachate and stormwater management, collection and treatment; landfill gas management; landfill cover requirements; leachate collection; types of natural treatment systems; and design procedure and considerations. In closing, it provides an overview of the current solid waste management status in Iran.

**Introductory Geotechnical Engineering** Springer Science & Business Media

*Design, Construction, and Monitoring of Landfills* A New Edition of the reference book more professionals are turning to— Like its successful first edition, this updated Second Edition of *Design, Construction, and Monitoring of Landfills* provides easy access to the current theory and practice of landfill engineering. Using an integrated, multidisciplinary approach, it serves as the ideal desk reference for environmental, civil, and geotechnical engineers, hydrogeologists, and others involved in hazardous and non-hazardous waste disposal. This new edition features material on landfill operation, the latest advances in waste handling, and new liner and cover technologies. This book offers a wealth of state-of-the-art information, such as: Landfill site selection methods

Maintaining quality control during construction The economic analysis of landfills The fundamentals of landfill monitoring Attenuation: how it works, factors affecting it, the design of attenuation landfills Strategies for dealing with leachate, gas, and storm water How to estimate the costs of construction, operation, final closure, and long-term monitoring of landfills No other single source offers as much time- and money-saving information on landfills as *Design, Construction, and Monitoring of Landfills* by Amalendu Bagchi. For government agencies, consulting firms, environmental engineers, and others involved in waste management, it is sure to become a standard reference. Of related interest... *Statistical Methods for Groundwater Monitoring* Robert Gibbons 1994 (0-471-58707-9) 256 pp. *Waste Containment Systems; Waste Stabilization and Landfills: Design and Evaluation* Hari D. Sharma and Sangeeta P. Lewis 1994 (0-471-57536-4) 528 pp.

*Sanitary Landfill Design and Operation* Thomas Telford

These proceedings cover a range of issues of direct relevance to geotechnical engineers and associated disciplines working on landfill design, highlight new areas of research and practice, and provide a focus for future research and development.