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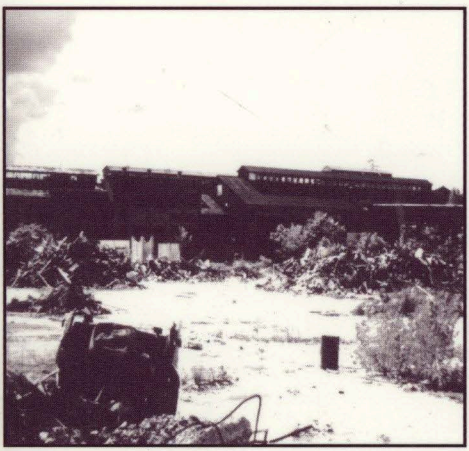
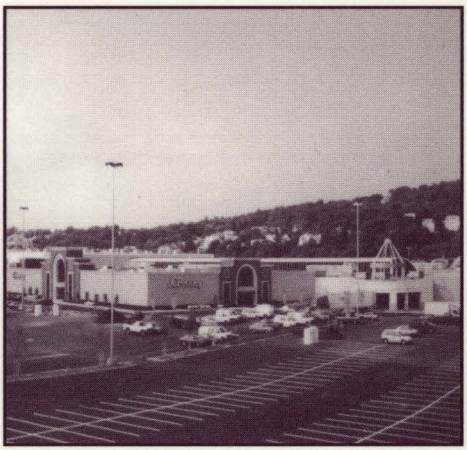
RISK-BASED CORRECTIVE ACTION AND BROWNFIELDS RESTORATIONS

EDITED BY CRAIG H. BENSON, JAY N. MEEGODA, ROBERT B. GILBERT AND SAMUEL P. CLEMENCE





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RISK-BASED CORRECTIVE ACTION AND BROWNFIELDS RESTORATIONS

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Abstract: This proceedings, *Risk-Based Corrective Action and Brownfields Restorations*, contains papers presented at sessions sponsored by the Geo-Institute of ASCE in conjunction with the ASCE Annual Convention held in Boston, Massachusetts, October 18-21, 1998. These papers describe the tools and methods employed in risk-based corrective action, provide illustrative examples through case histories with an emphasis on brownfields restoration. This proceeding provides practitioners with an introduction to the concepts that are employed and the lessons that have been learned by others.

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PREFACE

Vast resources have been expended during the last two decades on remediating sites contaminated as a result of poor waste management practices in the past. Recently, the costs of these remedial actions have come under scrutiny, particularly regarding the ultimate reduction in risk that is obtained relative to the economic resources committed. Risk-Based Corrective Action (RBCA) and Brownfields Restoration are an outgrowth of this scrutiny, and are now playing a significant role in remediating contaminated sites. In recent years, RBCA has become more widely used, and has become an integral part of the burgeoning brownfields programs. RBCA provides the necessary framework for balancing health and environmental risks with costs with the ultimate objective of implementing sensible remedial actions. Brownfields restoration is a reasonable and economical approach for remediating contaminated land that is intended for industrial use.

This Geotechnical Special Publication (GSP) was developed to describe the tools and methods employed in RBCA, and to provide illustrative examples through case histories with emphasis on Brownfields restorations. The intent is to provide practitioners with an introduction to the concepts that are employed and lessons that have been learned by others. Selected representatives of the Geo-Institute's Environmental Geotechnics and Soil Properties Committees invited the authors to prepare the papers in this GSP. Each paper received at least one positive review before being accepted and was revised to conform to any mandatory revisions required by the reviewers. All papers in this GSP are eligible for discussion in the *Journal of Geotechnical and Geoenvironmental Engineering* and are eligible for ASCE and Geo-Institute awards.

The persons who volunteered to review the papers were essential to the timely publication of this GSP. These persons are:

Shobha K. Bhatia	William Librizzi	George Newell
Matthew Clumpner	Randall Longseth	D. Raghu
Edward Dauenheimer	Gerard F. Mckenna	Christine Rioux
Robert Dresnack	Mark P. Mitsch	Arthur Vandeleigh
Robert Hazen	Sudhi Mukherjee	David Velguth
Todd Heathcoat	Alan Murray	C. Vipulanandan
Peter B. Lederman	John Opie	Bert Wescott

We are grateful for their efforts, as well as the efforts of the authors.

Craig H. Benson, Jay N. Meegoda, Robert B. Gilbert, and Samuel P. Clemence

June 1998

Contents

THE GREENING OF NEW JERSEY'S "BROWNFIELDS"- AS VIEWED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

By Richard J. Gimello, Assistant Commissioner,
Site Remediation Program
and
Phyllis E. Bross, Deputy Attorney General

I. OVERVIEW

A. Addressing Impediments To Brownfields Redevelopment

Not unlike other states, New Jersey finds itself heavily involved in brownfield issues. Many commercial and industrial properties are in need, a need that cannot be ignored or avoided. In New Jersey and across the nation, factories, gasoline stations, dry cleaning establishments, chemical storage companies -- even former landfills[1] -- have, in a sense, been used up. Some of them have then been shunned and simply discarded. This State's goal is to encourage redevelopment, especially because some of these sites now being avoided have only been avoided because of perceived contamination (or perceived high cleanup costs). Clearly, our goal to revitalize these properties requires creativity.

For a number of years, New Jersey has possessed a vast body of statutes, regulations, and agency practices which effectively address contamination, whether in the form of pollution prevention or cleanup of already contaminated sites. But, in order to truly promote the reuse of brownfields, encouragement of increased numbers of land investments and redevelopment projects must also be accomplished. That effort, which has required not only legislative enactments such as the 1998 Brownfields Act, but innovative decision-making by various State Departments and other stakeholders as well, is underway.

Some time ago, New Jersey concluded that it should encourage the use of private funds to address contaminated areas of the State. Since that time, this