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Managing the Coastal Plain Aquifers of the Delaware River Basin, David C. Noonan, pp. 9-22.

Effective management of an interstate aquifer requires technical expertise, legislative support, legal enforcement and cooperation among various competing and controlling governmental agencies.

Community Participation in Public Works Projects, Francis M. Keville & Charlene D. Pizzo, pp. 23-42.

Due to increasing public awareness of the impact of large public works projects, key components of a successful large-scale public works project are community participation and citizen involvement in planning, design and construction phases.

Controlling the Wind Climate Around Buildings, Edward Arens & Jon Peterka, pp. 43-56.

The wind environment may affect buildings and their surroundings. Engineers and architects must bear in mind that the wind influences both operating costs for buildings and the environmental quality of built areas.

Immersed Tube Tunnels: Concept, Design & Construction, Thomas R. Kuesel, pp. 57-78.

Offering significant engineering and cost

advantages, the use of immersed tubes for tunnel construction is growing. Major questions today involve where and how to use the immersed tube concept.

Emerging Biological Treatment Methods: Aerobic and Anaerobic, Ross E. McKinney, pp. 79-99.

Researchers have uncovered fundamental concepts of biological waste treatment and engineers are designing systems to make the environment safe now and in the future.

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Building Technology for Microelectronics Clean Room Design, William L. Maini, Michael K. Powers & Mario J. Loiacono, pp. 7-26.

Clean rooms require especially tight environmental controls. Technological advances in air particle control and cooperative design and construction are key concerns.

Truss Bridge Rehabilitation Using Local Resources, Abba G. Lichtenstein, pp. 27-30.

Imaginative use of local resources including materials, expertise and labor can result in cost efficient projects.

Back Bay Boston, Part II: Groundwater Levels, Harl P. Aldrich & James R. Lambrechts, pp. 31-64.

Man-made structures that permanently lower

groundwater levels can have adverse effects on buildings with water table sensitive foundations.

A Geotechnical Analysis of the Behavior of the Vaiont Slide, A.J. Hendron & F.D. Patton, pp. 65-130.

In determining the safety of proposed reservoir slopes, engineers and geologists must have a thorough understanding of the causes of the Vaiont Slide.

Streamflow Distribution in the Jones River Basin, David G. Johnson, pp. 131-140.

For streamflow distribution estimates to be more accurate, they must take into account hydrogeological conditions as well as being based on surface-drainage area.

Lowell Waterpower System, H. Hobart Holly, pp. 141-144.

Not many projects have had such wide-ranging effects as this engineering project had on the industrialization of America.

BSCES: History & Heritage, Gian S. Lombardo, pp. 145-157.

Few professional societies in this nation have had a continued history as the Boston Society of Civil Engineers Section/ASCE. Nor have many societies had so many members whose contributions to our nation's growth have been so far-reaching.

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Understanding the Nature of Engineering Decision-Making, P. Aarne Vesilind, pp. 7-16.

Poor engineering decisions can have disastrous results. How are engineering decisions made? And, most importantly, just what constitutes a sound decision?

The Role of Ductility in Seismic Design, David O. Knuuttunen, pp. 17-32.

If the technical bases of building code provisions for seismic design loads are not thoroughly understood, the use of the code will not necessarily result in a sound structural design. Some level of ductility must be provided.

Investigation and Hydraulic Containment of Chemical Migration: Four Landfills in Niagara Falls, Robert M. Cohen, Richard R. Rabold, Charles R. Faust, James O. Rumbaugh, III, & Jonathan R. Bridge, pp. 33-58.

Cleaning up hazardous waste sites is a complex process that requires extensive and flexible site study, and remedy assessment and implementation.

Evaluation of the Canoe Creek Bridge Abutments, Bohdan I. Czmola, pp. 59-74.

Effective repair of bridges experiencing structural distress requires a well-planned evaluation of the bridge based on site characteristics.

Slurry Wall Construction for a Cut-and-Cover Tunnel, Philip Bonanno, Donald T. Goldberg & Amol R. Mehta, pp. 75-88.

The use of slurry walls is not a common practice. However, they may pose satisfactory alternatives and consequences.

Floating Breakwaters for Small Craft Facilities, John W. Gaythwaite, pp. 89-108.

Floating breakwaters represent a viable alternative for wave protection. The selection of the type of floating breakwater, and its design, depend heavily on site conditions and ultimate application.

Cape Cod Canal, H. Hobart Holly, pp. 109-113.

This project proved the feasibility of a sea-level canal without locks that is subject to out-of-phase tidal cycles at its ends, and fostered coastal trade.

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Implementing a Computerized Water Distribution Management System, Carl R. Johnson & Edward T. Blair, pp. 7-24.

Computerizing a water distribution system requires an assessment of user needs to develop effective databases and software, and to select appropriate computer hardware.

Excellence Through Management Leverage: An Alternative to America in Ruins, Thomas D. Larson, pp. 25-34.

Public institutions are in a state of crisis in their attempts to render basic services. The Pennsylvania Department of Transportation is a case in point that management performance is integral to a sound public organization.

Foundation Considerations for the Expansion & Renovation of the Hynes Auditorium, Edmund G. Johnson & David A. Schoenwolf, pp. 35-62.

Site and structural conditions as well as building code requirements often result in overwhelming design problems. One unique, but replicable, approach overcame these problems.

Structural Renovation & Expansion for the

Hynes Convention Center, Steven Highfill, pp. 63-74.

A successful renovation requires a thorough evaluation of the building's condition, as well as an appreciation of its condition, in order to determine the design plan.

Basic Contract Law for Civil Engineers, Sidney J. Wartel, pp. 75-82.

Civil engineers and builders contract with owners to perform studies and designs and to undertake construction. Engineers should be aware of the basic elements of, and the critical issues involved in, engineering and construction contracts.

The Architect-Engineer's Role in Design-Build Contracts, Michael C. Loulakis, pp. 83-96.

While an engineering firm might open itself to increased risk, the design-build contracting method can provide significant advantages to the engineering firm and owner in carefully selected situations.

BSCES Honorary Members, pp. 97-100.

The Society honors three members for their professional excellence, achievements and contributions.