



STP 1129

Slurry Walls: Design, Construction, and Quality Control

David B. Paul, Richard R. Davidson, and Nicholas J. Cavalli, editors

ASTM Publication Code Number (PCN)
04-011290-38



ASTM
1916 Race Street
Philadelphia, PA 19103

Contents

Overview—D. B. PAUL, R. R. DAVIDSON, AND N. J. CAVALLI	ix
--	----

STATE-OF-THE-ART PAPERS

History of Slurry Wall Construction—A. L. RESSI DI CERVIA	3
Making Diaphragm Wall Joints Watertight with the CWS System—P. VANEL	16
Slurry Walls—Construction Quality Control—G. J. TAMARO AND R. J. POLETTO	26
USA Practice Slurry Wall Specifications 10 Years Later—R. A. MILLETT, J. Y. PEREZ, AND R. R. DAVIDSON	42

HAZARDOUS WASTE

Slurry Trench Cut-Off Walls for Environmental Pollution Control— W. E. GRUBE, JR.	69
Composite Barrier Slurry Wall—N. J. CAVALLI	78
New Trenching Method Using Synthetic Bio-Polymers—G. R. TALLARD	86
Soil-Pollution Effects on Geotextile Composite Walls—H. Y. FANG, S. PAMUKCU, AND R. C. CHANEY	103
Using Slurry Walls to Protect an Historic Building: A Case Study—R. G. GARVIN AND J. F. BOWARD	117
Effects of Construction of a Diaphragm Wall Very Close to a Masonry Building— S. F. CHAN AND T. F. YAP	128
Design and Construction of Cement-Bentonite Cutoff Wall for S. A. Murray, Jr., Hydroelectric Station—K. RAMACHANDRA AND C. H. SWAN	140
Concrete Slurry Wall for Temporary and Permanent Foundation Wall at Gallery at Harborplace—Baltimore, Maryland—D. G. GIFFORD AND J. R. WHEELER	151

Slurry Wall Performance Adjacent to Historic Church—E. W. WINTER, T. S. NORDMARK, AND G. TALLARD	164
Materials for Slurry Walls in Waste Chemicals—R. P. KHERA AND R. K. TIRUMALA	172
Innovative Aspects of Leachate Containment with Composite Slurry Walls: A Case History—M. MANASSERO AND C. VIOLA	181
Underreamed Drilled Shafts Installed Using Slurry Methods—D. A. SCHOENWOLF AND D. J. DOBBELS	194
Deep Foundation Elements Installed by Slurry Wall Techniques—E. G. JOHNSON, K. E. JOHNSON, AND C. M. ERIKSON	207
Quality Control of Slurry Cutoff Wall Installations—R. A. BELL AND J. L. SISLEY	225
Construction of Diaphragm Wall at Wells Dam East Embankment— D. L. ROBERTS AND D. M. HO	235
Plastic Concrete Slurry Wall for Wister Dam—E. D. ERWIN AND J. M. GLENN	251

SEEPAGE CUTOFFS

Design and Construction of a Plastic Concrete Cutoff Wall for the Island Copper Mine—R. R. DAVIDSON, G. DENISE, B. FINDLAY, AND R. B. ROBERTSON	271
Design, Construction and Performance of a Soil-Bentonite Cutoff Wall Constructed in Two Stages—M. A. KHOURY, P. H. FAYAD, AND R. S. LADD	289
Seepage Cutoff Wall for Mud Mountain Dam—R. R. DAVISON, J. LEVALLOIS, AND K. GRAYBEAL	309
The Construction of "Thin" Slurry Walls and the Supporting Liquid Slurries Used—H. C. M. BREEK	324
State of the Art in Bio-Polymer Drain Construction—S. R. DAY AND C. R. RYAN	333

STRUCTURAL

Performance of an Internally Braced Slurry-Diaphragm Wall for Excavation Support—N. A. BONO, T. K. LIU, AND C. SOYDEMIR	347
Post Office Square Garage Project—A Case History of Instrumented Slurry Wall Performance—D. A. SCHOENWOLF, R. V. WHITMAN, E. L. ABBOTT, AND J. M. BECKER	361

Quality Control in Construction of Structural and Diaphragm Wall Joints— K. H. LEE, C. D. OU, AND K. W. TSAI	377
Design, Construction and Performance of a Deep Circular Diaphragm Wall— D. A. BRUCE, P. H. C. CHAN, AND G. J. TAMARO	391
Permanent Slurry Walls at Baltimore Metro's Shot Tower Station—A. PATEL AND R. CASTELLI	403