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Repair, Evaluation, Maintenance, and Rehabilitation Research Program

Index of REMR Technology and Listing of REMR Research Publications Through March 1993

*by William F. McCleese, Nancy F. Curtis
Structures Laboratory*



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The following two letters used as part of the number designating technical reports of research published under the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program identify the problem area under which the report was prepared:

	<u>Problem Area</u>		<u>Problem Area</u>
CS	Concrete and Steel Structures	EM	Electrical and Mechanical
GT	Geotechnical	EI	Environmental Impacts
HY	Hydraulics	OM	Operations Management
CO	Coastal		

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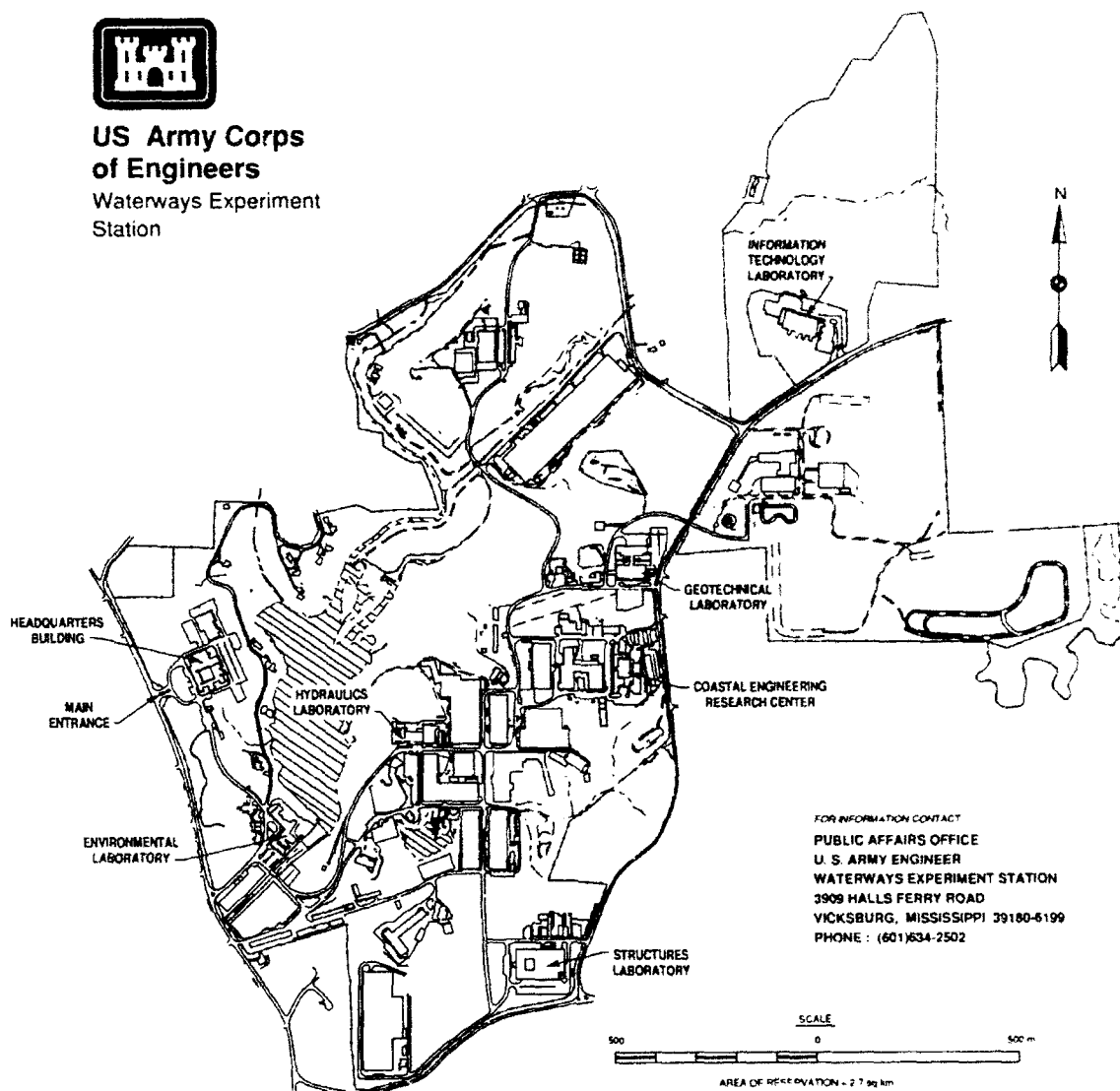
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Preface

This index was authorized by Headquarters, U.S. Army Corps of Engineers (HQUSACE), as part of the Program Management of the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program. Mr. William F. McCleese, Structures Laboratory (SL), U.S. Army Engineer Waterways Experiment Station (WES), was the REMR Program Manager. The REMR Coordinator for the Directorate of Research and Development was Mr. William N. Rushing. Members of the REMR Overview Committee were Mr. James E. Crews and Dr. Tony C. Liu.

This index lists information sources useful to anyone engaged in repair, evaluation, maintenance, and rehabilitation activities in the following areas: coastal, concrete and steel structures, electrical and mechanical, environmental impacts, geotechnical, hydraulics, and operations management.

The work is divided into five chapters. Chapter 1 is a subject index that references technology addressed in REMR publications. Chapters 2 through 5 are lists of the titles of these publications: technical reports, technical notes and material data sheets from *The REMR Notebook*, articles from *The REMR Bulletin*, and videos. Entries are current through March 1993 and will be updated periodically.

This index was compiled by Mr. McCleese and Ms. Nancy F. Curtis, REMR Research Program, under the general supervision of Messrs. Kenneth L. Saucier, Chief, Concrete Technology Division, SL; James T. Ballard, Assistant Director, SL; and Bryant Mather, Director, SL.

At the time of the publication of this report, Dr. Robert W. Whalin was Director of WES. COL Leonard G. Hassell, EN, was Commander.

1 Subject Index of REMR Documents

All REMR technology - as published in technical reports, technical notes and material data sheets from *The REMR Notebook*, and articles from *The REMR Bulletin* through March 1993 - is indexed by subject. The first entry listed is a problem area of the REMR Research Program. The problem areas are as follows:

- Coastal Applications
- Concrete and Steel Structures
- Electrical and Mechanical Applications
- Environmental Impacts
- Geotechnical Applications
- Hydraulics Applications
- Operations Management

Additional subject categories are listed under each problem area to assist the reader in the rapid identification of REMR publications. The codes (letters and numbers) of the publications containing information on a subject are explained below. Chapters 2, 3, and 4 provide information that will aid in locating the publication (full title, author(s), date, ADA number, etc.). The basic codes are as follows:

- Technical reports - TR followed by the problem area abbreviation and report number.
- *The REMR Bulletin* - RB followed by the volume and number of issue.
- *The REMR Notebook* - CM (concrete materials), CO (Coastal), CS (Concrete and Steel), EI (Environmental Impacts), EM (Electrical and Mechanical), GT (Geotechnical), HY (Hydraulics), and OM (Operations Management) followed by additional codes.

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REMR-CS-36	Jun 91	Evaluation and Repair of Concrete Structures: Annotated Bibliography 1978-1988, Vol. I (AD A242 218/6/XAB) and Vol. II (AD A242 219/4/XAB), by James E. McDonald and Willie E. McDonald	
REMR-CS-37	Dec 91	Underwater Repair of Concrete Damaged by Abrasion-Erosion, by Kamal Henry Khayat	AD A245 901
REMR-CS-38	Dec 91	Underwater Stilling Basin Repair Techniques Using Precast or Prefabricated Elements, by R. D. Rail and H. H. Haynes	AD A245 900
REMR-CS-39	Dec 92	Continuous Deformation Monitoring System (CDMS), by Carl A. Lanigan	
Unnumbered	Jan 87	Proceedings of REMR Workshop on Assessment of the Stability of Concrete Structures on Rock, 10-12 September 1985, compiled by William F. McCleese	AD A185 644
Unnumbered	Aug 89	Sonar Probing of Concrete, by John H. Mims and Robert R. Unterberger	

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REMR-EM-1	Sep 87	A Review of Bird Pests and Their Management, by Anthony J. Krzysik	AD A190 195
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REMR-EM-3	Oct 88	Underwater Applied Coatings: A State-of-the-Art Investigation, by R. W. Drisko and J. R. Yanez	AD A201 712
REMR-EM-4	Sep 89	Hydroelectric Generator and Generator-Motor Insulation Tests, by Robert H. Bruck and Ray G. McCormack	AD A212 924
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REMR-EM-6	Dec 89	Mechanical Properties and Corrosion Behavior of Stainless Steels for Locks, Dams, and Hydroelectric Plant Applications, by Ashok Kumar, Ali A. Odeh, and J.R. Myers	AD A219 490
REMR-EM-7	Jan 92	High-Solids and 100-Percent Solids Coatings: A State-of-the-Art Investigation, by John Baker and Alfred D. Beitelman	AD A247 557
Unnumbered	Jun 89	Proceedings of REMR Workshop on Management of Bird Pests, by Anthony J. Krzysik	AD A210 086

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REMR-EI-1	Nov 86	Applicability of Environmental Laws to REMR Activities, by Jim E. Henderson and Linda D. Peyman	AD A177 322
REMR-EI-2	Nov 86	Bibliography of Environmental Research Related to REMR, by Nelson R. Nunnally	AD A177 069
REMR-EI-3	Aug 88	Compliance Requirements for Environmental Laws Applicable to REMR Activities, by Jim E. Henderson and Linda D. Peyman-Dove	AD A200 193
REMR-EI-4	Aug 88	Seasonal Regulation of Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Activities, by Mark W. LaSalle, John Nestler, and Andrew C. Miller	AD A198 016

REMR-EI-5	Aug 91	The Effects of Vegetation on the Structural Integrity of Sandy Levees, by Donald H. Gray, Anne MacDonald, Thomas Thomann, Imogene Blatz, and F. Douglas Shields, Jr.	AD A240 267
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REMR-GT-2	Aug 85	Improvement of Liquefiable Foundation Conditions Beneath Existing Structures, by Richard H. Ledbetter	AD A160 695
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REMR-GT-3		Geotechnical Aspects of Rock Erosion in Emergency Spillway Channels	
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	Aug 86	Report 1: by Christopher P. Cameron, Kerry D. Cato, Colin C. McAneny, and James H. May	AD A173 163
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	Sep 88	Report 2: Analysis of Field and Laboratory Data, by Christopher P. Cameron, David M. Patrick, Kerry D. Cato, and James H. May	AD A203 774
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	Sep 88	Report 3: Remediation, by Christopher P. Cameron, David M. Patrick, Craig O. Bartholomew, Allen W. Hatheway, and James H. May	AD A203 775
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	Dec 89	Report 4: Geologic and Hydrodynamic Controls on the Mechanics of Knickpoint Migration, by James H. May	AD A216 749
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	Sep 90	Report 5: Summary of Results, Conclusions, and Recommendations, by Christopher P. Cameron, David M. Patrick, James H. May, John B. Palmer-ton, Colin C. McAnany, Allen W. Hatheway, Craig O. Bartholomew, Christopher C. Mathewson, and Kerry D. Cato	AD A228 781
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REMR-GT-4	Nov 87	State of the Art for Design and Construction of Sand Compaction Piles, by Richard D. Barksdale	AD A188 816
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REMR-GT-5	Sep 87	Inspection and Control of Levee Under-seepage During Flood Fights, by Robert W. Cunny	AD A188 324
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REMR-GT-6		Geotechnical Applications of the Self Potential (SP) Method	
	Mar 88	Report 1: The Use of Self Potential in the Detection of Subsurface Flow Patterns in and Around Sinkholes, by Ronald A. Erchul	AD A194 524
	May 89	Report 2: The Use of Self Potential to Detect Ground-water Flow in Karst, by Ronald A. Erchul and Dennis W. Slifer	AD A209 399
	Feb 89	Report 3: Development of Self-Potential Interpretation Techniques for Seepage Detection, by Robert W. Corwin and Dwain K. Butler	AD A207 704
	Mar 90	Report 4: Numerical Modeling of SP Anomalies: Documentation of Program SPPC and Applications, by Michael J. Wilt and Dwain K. Butler	AD A220 716
REMR-GT-7	Dec 87	Applications of the State of the Art of Stone Columns--Liquefaction, Local Bearing Failure, and Example Calculations, by Richard D. Barksdale	AD A191 606
REMR-GT-8	Jul 88	Review of Consolidation Grouting of Rock Masses and Methods for Evaluation, by R. Morgan Dickinson	AD A198 209
REMR-GT-9	Mar 88	A Survey of Engineering Geophysics Capability and Practice in the Corps of Engineers, by Dwain K. Butler, Ronald E. Wahl, Nolan W. R. Mitchell, and Gregory L. Hempen	AD A194 520
REMR-GT-10	Jul 89	High-Resolution Seismic Reflection Investigations at Beaver Dam, Arkansas, by Thomas L. Dobecki, Tanya L. Mueller, and Monroe B. Savage	AD A211 228
REMR-GT-11	Sep 89	Levee Underseepage Analysis for Special Foundation Conditions, by Thomas F. Wolff	AD A213 500
REMR-GT-12	Sep 89	Re-Evaluation of the Sliding Stability of Concrete Structures on Rock with Emphasis on European Experience, by K. Kovari and P. Fritz	AD A214 403
REMR-GT-13	Sep 89	Levee Underseepage Software User Manual and Validation, by Robert W. Cunny, Victor M. Agostinelli, Jr., and Hugh M. Taylor, Jr.	AD A214 024

REMR-GT-14	Mar 90	Surface Roughness Characterization of Rock Masses Using the Fractal Dimension and the Variogram, by James R. Carr	AD A225 384
REMR-GT-15	Mar 91	Plastic Concrete Cutoff Walls for Earth Dams, by Thomas W. Kahl, Joseph L. Kauschinger, and Edward B. Perry	AD A234 566
REMR-GT-16		Redevelopment of Relief Wells, Upper Wood River Drainage and Levee District, Madison County, Illinois, by J. Kissane and Roy E. Leach	
REMR-GT-17	Jan 92	Applications and Testing of Resin-Grouted Rockbolts, by Timothy S. Avery and James E. Friant	AD A245 980
REMR-GT-18	Sep 92	Evaluation of the Rehabilitation Program for Relief Wells at Leesville Dam, Ohio, by Roy E. Leach and Glen Hackett	AD A259 197
REMR-GT-19	Nov 92	DAMSEAL--An Expert System for Evaluating Dam Seepage, by Roger L. King and Wendell O. Miller	
Unnumbered	Jan 88	Proceedings of REMR Workshop on New Remedial Seepage Control Methods for Embankment-Dams and Soil Foundations, by Edward B. Perry	AD A191 073
Unnumbered	Jul 89	Proceedings of REMR Workshop on Research Priorities for Drainage System and Relief Well Problems, by Roy E. Leach and Hugh M. Taylor, Jr.	AD A212 067

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REMR-HY-1	Jul 86	Annotated Bibliography for Navigation Training Structures, Compiled by Walter E. Pankow and Robert F. Athow, Jr.	AD A173 303
REMR-HY-2	Jun 87	Floating Debris Control; A Literature Review, by Roscoe E. Perham	AD A184 033
REMR-HY-3	Sep 88	Elements of Floating Debris Control Systems, by Roscoe E. Perham	AD A200 454
REMR-HY-4	Mar 89	Effects of Geometry on the Kinetic Energy of a Towboat and Barges in a Navigation Lock, by Sandra K. Martin	AD A207 057

REMR-HY-5	Mar 89	Explicit Numerical Algorithm for Modeling Incompressible Approach Flow, by Robert S. Bernard	AD A207 176
REMR-HY-6	Oct 89	Inventory of River Training Structures in Shallow-Draft Waterways, by David L. Derrick, Herbert W. Gernand, and James P. Crutchfield	AD A214 566
REMR-HY-7	Sep 92	Lock Accident Study, by Sandra K. Martin and Martin E. Lipinski	AD A228 627
REMR-HY-8	Apr 91	Shallow-Draft Training Structure Current Repair Practices and Repair Guidelines, by David L. Derrick	AD A239 045
Unnumbered	Apr 91	Proceedings of REMR Workshop on Repair and Maintenance of Shallow-Draft Training Structures, compiled by David L. Derrick	AD A235 666

Operations Management

REMR-OM-1	May 86	Evaluation of Existing Condition Rating Procedures for Civil Works Structures and Facilities, by Enno Koehn and Anthony M. Kao	AD A170 391
REMR-OM-2	Sep 88	REMR Managment System, by H. Thomas Yu and Anthony M. Kao	AD A200 728
REMR-OM-3	Jun 89	User's Manual: Inspection and Rating of Steel Sheet Pile Structures, by Lowell Greimann and James Stecker	AD A210 411
REMR-OM-4	May 89	A Rating System for the Concrete in Navigation Lock Monoliths, by Rupert E. Bullock	AD A208 304
REMR-OM-5	Sep 89	Timber Dike Management System, by H. Thomas Yu and Anthony M. Kao	AD A213 851
REMR-OM-6	Dec 89	Network Level REMR Management System for Civil Work Structures: Concept Demonstration on Inland Waterways Locks, by Michael J. Markow, Sue McNeil, Dharma Acharya, and Mark Brown	AD A217 031
REMR-OM-7	Aug 90	Inspection and Rating of Miter Lock Gates, by Lowell Greimann, James Stecker, and Kevin Rens	AD A227 198

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REMR-OM-8	Dec 90	REMR Management Systems-Navigation Structures: Management System for Miter Gates, by Lowell Greimann, James Stecker, and Kevin Rens	AD A231 469
REMR-OM-9	Dec 90	Maintenance and Repair of Steel Sheet Pile Structures, by Lowell Greimann and James Stecker	AD A231 916
REMR-OM-10	Sep 90	Lockwall: A Microcomputer-Based Maintenance and Repair Management System for Concrete Navigation Lock Monoliths, by David T. McKay and Anthony M. Kao	AD A228 625
REMR-OM-11	May 91	REMR Management Systems--Coastal/Shore Protection Structures: Condition Rating Procedures for Rubble Breakwaters and Jetties-Initial Report, by Donald E. Plotkin, D. D. Davidson, and Joan Pope	AD A237 042
REMR-OM-12	Mar 92	REMR Management Systems--Navigation Structures: Users Manual for Concrete Navigation Lock Monoliths, by Automation Support Center, University of Illinois, and David T. McKay	AD A248 994

3 REMR Technical Notes

REMR Technical Notes (TNs) are fact sheets on techniques, materials, and equipment used in REMR research. This section lists all the TNs published in *The REMR Notebook* through March 1993. The first two letters of a TN number correspond to the code for the section of the notebook that contains the technical note.

- **CM -- Concrete Materials**
- **CO -- Coastal Applications**
- **CS -- Concrete and Steel Structures**
- **EI -- Environmental Impacts**
- **EM -- Electrical and Mechanical Applications**
- **GT -- Geotechnical Applications**
- **HY -- Hydraulics Applications**
- **OM -- Operations Management**

The REMR Notebook is intended as a quick reference document. It is a collection of fact sheets that address REMR activities at U.S. Army Corps of Engineers Civil Works projects. Each TN lists a statement of purpose and a point of contact for additional information. It may also include when and where to apply the technology described, advantages and limitations of its use, cost and availability of products or services, and personnel requirements. A copy of the notebook has been distributed to the Engineering Construction, Operations, and Planning Division of each Corps District and Division as well as to the libraries of each District and Division. Technology is made current through yearly supplements.

REMR Technical Notes

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CO-BS-1.1	Two-Person Rapid Beach Survey Method
CO-RA-1.1	Condition Survey of Concrete Armor Unit Breakage on Existing Corps of Engineers' Breakwaters and Jetties
CO-RR-1.1	Dolos Repair and Rehabilitation
CO-RR-1.2	Fracturing of Rubble Stone by Explosive Charges
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- CM-CR-1.7 Epoxy Resin System for Dormant Crack Repair: Duralith
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CM-SE-1.58	Concrete Sealer: Stifel
CM-SE-1.59	Concrete Sealer: Promulsion 60
CM-SE-1.60	Concrete Sealer: Preston CRC 800
CM-SE-1.61	Concrete Sealer: Preston C & S 600
CM-SE-1.62	Concrete Sealer: Thoroclear 777
CM-SE-1.63	Concrete Sealer: Hydrozo Clear 30M
CM-SE-1.64	Concrete Sealer: Elastoid 1300

- CM-SE-1.65 Concrete Sealer: Canyon Tone Stain
- CM-SE-1.66 Concrete Sealer: Alocit Aquacoat 28.15
- CM-WA-1.1 High-Range Water-Reducing Admixture for Concrete: CFR-2
- CM-WA-1.2 Water-Reducing, Cement-Dispersing, Set-Control Admixture
for Concrete: HPS-R

Electrical and Mechanical Applications

- EM-CR-1.1 Selection Guide for Wrought Stainless Steel Fasteners for Civil
Works Applications
- EM-CR-1.2 Cathodic Protection of Civil Works Structures
- EM-CR-1.3 Use of Ceramic Anodes to Prevent Corrosion
- EM-CR-1.4 Pipe Corrosion Monitor
- EM-CR-1.5 Mechanical Properties and Corrosion Behavior of Stainless
Steels for Lock, Dam, and Hydroelectric Plant Applications
- EM-CR-1.6 *The Use of A690 Mariner Steel Sheet Pilings*
- EM-CR-8.1 Stainless Steel Tainter Gate and Tractor-Type Dam Gate
Components: Successful Case Histories
- EM-MM-1.1 Lubrication Used at Corps Hydraulic Installations
- EM-MS-1.1 Selection of Dam Gate Seal Materials
- EM-MS-1.2 Dam Gate Seal Heaters
- EM-PC-1.1 Forms and Causes of Galvanic Corrosion in the Coastal
Environment
- EM-PC-1.2 Paint Test Kit for Field Screening of Paints
- EM-PC-1.3 Underwater Applied Coatings
- EM-PC-1.4 Development of High Solids Coatings

Environmental Impacts

- EI-M-1.1 Environmental Methodology for REMR Activities

- EI-M-1.2 Handling and Disposal of Construction Residue
- EI-M-1.3 Vegetation and the Structural Integrity of Levees: Results of Field Investigations
- EI-M-1.4 Issues Regarding Vegetation Management on Levee Embankments
- EI-R-1.1 Environmental Impacts and Seasonal Regulation of REMR Activities

Geotechnical Applications

- GT-RE-1.1 Rock Erosion in Emergency Spillway Channels
- GT-RE-1.2 Methodology for Selecting Shear-Strength Parameters of Rock
- GT-RE-1.3 Rock Erosion in Spillway Channels
- GT-RE-1.4 Use of Fractal Dimension to Characterize Surface Roughness of Rock Masses
- GT-RR-1.1 Injectability of Grouts Containing Microfine Cement and Portland Cement with a High-Range Water-Reducing Agent
- GT-SE-1.1 USDA Soil Conservation Service Spillway Erosion Studies
- GT-SE-1.2 Water-Jet Erodibility Measurement Device
- GT-SE-1.3 Method of Analyzing the Need and Requirements for Landside Seepage Berms
- GT-SE-1.4 Operating Piezometers Under Freezing Conditions
- GT-SE-1.5 Bioengineering Technique of Reservoir Shoreline Erosion Control in Germany
- GT-SE-1.6 Traditional Techniques for Shoreline Erosion Control in Reservoirs
- GT-SR-1.1 Drilling Machine for Excavation for Concrete Cutoff Walls
- GT-SR-1.2 Methods for Improvement of Liquefiable Soil Conditions
- GT-SR-1.3 Design Procedure for Plastic Concrete Cutoff Walls

Hydraulics Applications

- HY-FC-1.1 Causes for Excessive Scour Downstream from High-Level Emergency Spillways
- HY-FC-1.2 Guidance for Evaluation of Existing High-Level Emergency Spillways
- HY-FC-1.3 Structural Modifications to Prevent Excessive Scour Downstream from High-Level Emergency Spillways
- HY-MM-1.1 Elimination of Adverse Approach Flow Conditions Using a Computer Model
- HY-MM-1.2 Screening of Rehabilitation Alternatives Through Numerical Modeling of Approach Flows
- HY-MS-1.1 Streambank Protection Guidelines
- HY-N-1.1 Grout-Filled Fabric Bags as a Substitute for Riprap
- HY-N-1.2 Channel Maintenance Control Through Optimum Structural Rehabilitation
- HY-N-1.3 Guidance for Repairing Scoured Areas Below Navigation Dam Stilling Basins and Spillway Aprons
- HY-N-1.4 Interim Guidance on Lock Gate Barrier Systems
- HY-N-1.5 Scour Protection Downstream of Uncontrolled Fixed-Crest Dams
- HY-N-1.6 Scour Protection Downstream From Gated Low-Head Navigation Dams
- HY-N-1.7 Lock Accident Study - Contents and Finds
- HY-N-1.8 Channel Maintenance: Guidelines for Dike Spacing

Operations Management

- OM-CI-1.1 Rating System for Concrete in a Navigation Lock
- OM-CI-1.2 The REMR Condition Index: Condition Assessment for Maintenance Management of Civil Works Facilities
- OM-MS-1.1 REMR Management Systems for Civil Works Structures

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OM-MS-1.2	REMR Management Systems for Concrete Navigation Lock Monoliths
OM-MS-1.3	REMR Management Systems for Miter Lock Gates
OM-MS-1.4	REMR Management Systems for Steel Sheet Pile Structures
OM-MS-1.5	REMR Management Systems for Rubble Breakwaters and Jet-ties
OM-MS-1.6	REMR Management Systems for Timber Dikes

4 *THE REMR Bulletin* Articles

This section lists all technical articles published in *The REMR Bulletin* through March 1993. The articles are listed by volume and number of the issue in which they appeared. The title and author(s) of each article are provided. A bulletin article listed in Chapter 1 as RB-2-3 can be found under Vol. 2, No. 3. Back issues may be obtained by contacting the REMR Technology Transfer Specialist at (601) 634-2587.

The REMR Bulletin Articles

- Vol 1, No. 1, Jan 1984 "The REMR Research Program"
- Vol 1, No. 2, Apr 1984 "Mobile District Hosts Third Field Review Group Meeting"
- Vol 1, No. 3, Jul 1984 "Acrylic Latex Concrete Repair," by Rosemarie Braatz
 "Seattle District Testing Novel Approach to Reducing Spillway Leakage at Chief Joseph Dam," by Paul Johnson
- Vol 1, No. 4, Oct 1984 "Memphis District Turns Riverward for Levee Rehabilitation," by Joseph Keithley, Jr., and Paul Miller
 "CAGE Project Can Aid Data Gathering and Analysis for Geotechnical Applications," by Wipawi Vanadit-Ellis
 "Construction of Soil-Cement Columns by Jet-Injection Grouting," by Max Gibbs, Paul Pettit, and Georgio Guatteri
- Vol 2, No. 1, Mar 1985 "Mining Tool Adapted to Concrete Removal for Lock Wall Rehabilitation Project," by Warren Parr
 "Corps-BuRec Effort Results in High-Resolution Acoustic Mapping System," by Henry Thornton
- Vol 2, No. 2, Jun 1985 "French Drilling Machine Shows Advantages in Excavating for Concrete Cutoff Wall," by Charles Hess
 "Geophysical Methods Applied to Detect and Map Seepage Paths at Clearwater Dam," by Dwain Butler
- Vol 2, No. 3, Sep 1985 "New Technique for Waterstop Replacement Used at Pine Flat Dam," by Debra Tanis
 "Performance of Repairs to Stop Leakage in Intake Structures," by James McKenzie and Roy Campbell
- Vol 3, No. 1, Apr 1986 "Current Methods for Repairing Scoured Areas Downstream from Stilling Basins," by John Hite, Jr.
 "Research Under Way on Problems with Estuarine and Deep Draft Navigation Channel Training Structures," by Robert Athow, Jr., and Michael Trawle
- Vol 3, No. 2, Sep 1986 "Floating Debris Control Systems for Hydroelectric Plant Intakes," by Roscoe Perham

- "Protection of Lock Gates from Vessel Impact," by Sandra McKay
- Vol 3, No. 3, Dec 1986 "Results from TVA Testing of Grouting Systems for Concrete Anchors," by James McDonald
 "Precast Panels Speed Rehabilitation of Placer Creek Channel," by Kathy Hacker
- Vol 4, No. 1, Jul 1987 "Precast Concrete Stay-In-Place Forming System for Lock Wall Rehabilitation," by James McDonald
 "Remedial Measures to Control Excessive Leakage at Richard B. Russell Dam," by Gary Close and John Hager
- Vol 4, No. 2, Oct 1987 "Anti-Washout Admixtures for Use in Underwater Concrete Placement," by Kenneth Saucier and Billy Neeley
 "Use of Fiber-Reinforced Acrylic Polymer Modified Concrete as Repair Material at Lock 2," by Michael Dahlquist
- Vol 4, No. 3, Nov 1987 "Nondestructive Testing of Foundation at Lock No. 2, Mississippi River," by Michael Dahlquist
 "Chemical Grout Used to Stop Water Leakage in Control Towers and Conduits," by Rick Lewis and Larry Brockman
 "Chemical and Asphaltic Grouts for Sealing Coastal Structures to Sand Infiltration and Wave Transmission," by David Simpson
- Vol 4, No. 4, Dec 1987 "Concrete Rehabilitation at Lock and Dam No. 20, Mississippi River," by Jerry Wickersham
 "Epoxy Repair of Cracked Wooden Roof Trusses," by MAJ Sean Wachutka
 "Stabilized Channel Maintenance and Aquatic Habitat," by Douglas Shields, Jr.
- Vol 5, No. 1, Mar 1988 "Spillway Rehabilitation at Grapevine Lake Fort Worth District," by Ronald Turner
 "Ultrasonic Pulse-Echo Measurements of the Concrete Sea Wall at Marina Del Rey Los Angeles County, California," by Henry Thornton and Michel Alexander
 "Environmental Impacts of Stilling Basin Dewaterings," by Marc Zimmerman
- Vol 5, No. 2, Jul 1988 "Evaluation of Vinylster Resin for Anchor Embedment in Concrete," by James McDonald

- "Floating Debris Boom Evaluation Program Summary," by Rosco Perham
- "Comparison of Corps of Engineers' and US Bureau of Reclamation's Methods for Calculating Uplift Pressures," by Carl Pace
- Vol 5, No. 3, Sep 1988 "Use of New Well Redevelopment Techniques on Relief Wells in Upper Wood River Drainage and Levee District," by Joseph A. Kissane
- "Determination of Relief Well Infestation with the Use of Bacterial Activity Test (BAT) Kit," by Roy Leach
- "Jetty Repair Projects: Potential Beneficial Impacts," by Douglas G. Clarke
- Vol 6, No. 1, Feb 1989 "Performance of Polyester Resin Grouted Rockbolts Installed Under Wet Conditions," by Tim Avery
- "Deposition of Calcium Carbonate in Foundation Drain Holes," by Andrew Schaffer
- "Effects of a Stearic-Acid Based Admixture on Water Repellency of Concrete," by Kim Titus
- Vol 6, No. 2, May 1989 "In Situ Repair of Deteriorated Concrete," by James E. McDonald
- "Rehabilitation of Crow Dam Gate Tower," by Robert V. Todd
- Vol 6, No. 3, Jul 1989 "Innovative Products and Procedures Used on Chouteau Island Levee Relocation," by Tamara L. Atchley
- "Cutoff Wall Construction to Upgrade Mud Mountain Dam," by K. D. Graybeal
- "A Review of 'Flume Investigation of a Composite, Erosion Resistant Material,'" by Jerry Lee Anderson and Robert F Athow
- Vol 6, No. 4, Oct 1989 "Rehabilitation of Peoria Lock Using Preplaced-Aggregate Concrete," by George J. Mech
- "The Repair of Large Concrete Structures by Epoxy Resin Bonding," by Dr. Donald A. Bruce
- "Surface Treatments for Concrete," by Tony B. Husbands and Fred E. Causey
- Vol 6, No. 5, Dec 1989 "Diamond Wire Cutting Used on Concrete at Marseilles Dam," by Michael W. Edwards
- "Evaluation of Water Jet Blasting for Removal of Concrete from Lock Chamber Faces," by Roy L. Campbell, Sr.

- "Mechanical Presplitting Technique Used in Removal of Concrete from Chamber Face at Dashields Lock," by Doug Meley
- Vol 7, No. 1, Jan 1990 "Culvert Repair at Enid Lake, Mississippi," by Elke Briuer
 "Continuous Deformation Surveillance of Large Structures Possible with New Monitoring System," by Carl A. Lanigan
 "A Practical Application of a Low-Berm Revetment," by Heidi Pfeiffer and John P. Ahrens
- Vol 7, No. 3, Sep 1990 "Tainter Gate Hoist Chain Replacement to Improve Operations and Maintenance of Lock and Dam No. 20," by James W. Bartek
 "Anchor Embedment in Hardened Concrete Under Submerged Conditions," by James E. McDonald
 "Use of Plastic Concrete to Construct Cutoff Walls for Earth Dams," by Edward B. Perry
- Vol 7, No. 4, Dec 1990 "Nondestructive Testing of Concrete with Ultrasonic Pulse-Echo," by A. Michel Alexander
 "Corps Computer Program Helps Select Concrete and Steel Repair Materials," by Elke Briuer
- Vol 8, No. 1, Feb 1991 "Automating Maintenance and Repair - The REMR Management Systems for Civil Works Structures," by Anthony M. Kao
 "Preparation, Application, and Inspection of Coatings for Concrete," by Stephen G. Pinney
- Vol 8, No. 2, Apr 1991 "Hammondsport Flume: A Case History in Rehabilitation and Repair," by Russell E. Wege
 "Effective Underwater Joint Sealing at Chief Joseph Dam," by Kenneth B. Sondergard
- Vol 8, No. 3, Aug 1991 "Zinc Backing Material Expected to Extend Service Life of Bankhead Miter Gates," by Elke Briuer
 "Coastal Structure Acoustic Raster Scanner (CSARS) System for Underwater Inspection," by Jonathan Lott
 "The Potential for Cracking of Silica-Fume Concrete," by James E. McDonald
- Vol 8, No. 4, Dec 1991 "Underwater Repair of Concrete Based on REMR Technical Information," by Bruce Harris, James Palma, and Donald Miller
 "Acoustic Emissions Survey to Map Seepage Patterns Under a Navigation Lock," by James Warriner

- "Performance of Microprocessor-Based Reinforcing Steel Detector for Concrete Structures," by A. Michel Alexander and Willie E. McDonald
- Vol 9, No. 1, Mar 1992 "REMR Management Systems Training for US Army Corps of Engineers Personnel," by David T. McKay
 "Spillway Remediation of Saylorville Lake," by Keith Hass, Glen Hotchkiss, and George Mech
 "Epoxy Injection of Pier Stems of Mississippi River Dam No. 20," by George Mech and Jerry Wickersham
- Vol 9, No. 2, Jun 1992 "If the Primer Is Orange, It Is Probably Red Lead," by Alfred D. Beitelman
 "Chemical Grouting of a Concrete Dam," by W. James Marold, Casey M. Koniarski, and Michael P. Bruen
 "The Nation's Aging Coastal Infrastructure," by Joan Pope
- Vol 9, No. 3, Sep 1992 "Shoreline Erosion Control on Harvel Lake in Germany," by Hollis H. Allen
 "Investigating High-Solids and 100-Percent-Solids Coating," by Alfred D. Beitelman and John S. Baker
 "Use of Synthetic Oils for Enclosed Gear Cases," by O.S. Marshall, Jr.
- Vol 9, No. 4, Dec 1992 "Flow Model for Evaluation and Maintenance of High-Velocity Channels," by Richard L. Stockstill and R.C. Berger
 "Icing Problems at Corps Projects," by F. Donald Haynes, Leonard Zabilansky, and Robert Haehnel
- Vol 10, No. 1, Mar 1993 "REMR-Designed Stay-in-Place Concrete Forming System Used for Concrete Repair at Troy Lock and Dam," by William Petronis and Alan Ellinwood
 "Microtunneling Tests at Waterways Experiment Station," by Robert D. Bennett, D. T. Iseley, and Perry A. Taylor
 "Rehabilitation of Permeable Breakwaters and Jetties by Void Sealing, Port Everglades, Florida, South Jetty," by Lyndell Z. Hales

5 REMR Technology Videos

REMR technology videos are available through the Inter-Library Loan Service. A local librarian can request copies of the videos by calling the U.S. Army Engineer Waterways Experiment Station Library at (601) 634-2355. These tapes may be copied and can be used for private viewing, to support classroom instruction, or during presentations.

REMR Videos

REMR-CS-1 Remedial Waterstop Installation at Pine Flat Dam, Dec 86, 13 min, 1/2-in. (See *The REMR Bulletin*, Vol 2, No. 3)

REMR-CS-2 Precast Concrete Stay-in-Place Forming System for Lock Wall Rehabilitation, Jul 88, 20 min, 1/2- & 3/4-in. (See Technical Report REMR-CS-14)

REMR-CS-3 Antiwashout Admixtures for Use in Underwater Concrete Placement, Mar 89, 15 min 20 sec, 1/2-in. (See Technical Report REMR-CS-19 and Technical Note CS-MR-7.2)

REMR-EM-1 REMR I Summary of Electrical and Mechanical Problem Area,

REMR-GT-1 Computer Monitoring of Foundation Grouting, Jun 86, 10 min, 1/2- & 3/4-in.

REMR-HY-1 Excessive Scour Downstream of High Level Emergency Spillways, Oct 87, 20 min, 1/2- & 3/4-in. (See Technical Note HY-FC-1.1)

REMR-PM-1 Overview of the Repair, Evaluation, Maintenance and Rehabilitation (REMR) Research Program, Apr 85, 17-1/2 min, 3/4-in. (See Technical Report Unnumbered CS83)

Workshop: Underwater Inspection & Repair of Hydraulic Structures, 27-28 Nov 84, 1/2-in. (See also Technical Report REMR-CO-11)

Tape 1: Introduction and REMR Overview, CPT Wylie Bearup, 7 min
Concrete & Steel Problem Area, J.E. McDonald, 7-1/2 min
Underwater Inspection of Coastal Structures, Gary Howell, 47 min

Tape 2: Naval Facilities Specialized Inspection Program, Phil Scola, 51 min

Tape 3: Underwater Survey Techniques of the Naval Explosive Ordinance Disposal Technology Center, John Pennella, 17 min
Inspection Techniques in Turbid Water, Dan McGeehan, 18 min
Inspection of Kinzua Dam, Anton Kryza, 25 min

Tape 4: Underwater Survey and Repair (TVA), Dave Hegseth, 23 min
Inspection of R. D. Bailey Dam, Lloyd Schell, 20 min

Tape 5: Underwater Repair and New Survey Techniques, Steve Tatro, 32 min

Tape 6: Wynoochee and Chief Joseph Dams Investigation and Repair, George England and Paul Johnson, 40 min
Repair of Lock and Dam 26, Mel Stegall, 16 min

Tape 7: Weber Falls Stilling Basin Repair, Reggie Kikugawa, 30 min

Tapes 7 & 8: Underwater Repair of Hydraulic Structures, John Bachr, 46 min

Tape 8: FY 85 REMR Research Program Review, REMR Staff, 39-1/2 min

Workshop: New Remedial Seepage Control Methods for Embankment-Dams and Soil Foundations, 21-22 Oct 86, 1/2- and 3/4-in. (See Technical Report Unnumbered GT88)

Tape 1: Introduction, REMR Overview, LTC Jack Stephens, William F. McCleese, Britt Mitchell, Edward B. Perry, Joe Kauschinger, 30 min

Tape 2: Chemical and Micro-Fine Grouting, Reuben Karol, 58 min

Tape 3: Drains, Wally Sherman, 40 min

Tape 4: Upstream Impervious Blanket, Bill Morrison, 44 min

Tape 5: Reinforced Downstream Berms, Mike Duncan, 58 min

Tapes 6 & 6A: Plastic Concrete Cutoff Walls, George Tamaro, 72 min

Tape 7: Jet Grouted Cutoff Wall, Giorgio Guatterri, 60 min

Tape 7A: Dynamic Grouting by High, Giorgio Guatterri, 22 min

Tape 8: Use of Hydrofraise to Construct Concrete Cutoff Walls, Joe Parkington, 61 min

Tapes 9 & 9A: Ground Freezing as a Construction Expediency for Excavating Cutoff Trenches and/or Installation of Drains, John Shuster, 75 min

Tape 10: Panel Discussion, Joe Kauschinger, 60 min

Workshop: Repair and Maintenance of Shallow-Draft Training Structures, 24-25 Feb 87, 3 hr 32 min

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