

PIERO SEMBENELLI  
MILANO

VOLUME 91 NO. SM5

SEPTEMBER 1965

PART 1 OF 2 PARTS

**JOURNAL of the**  
***Soil Mechanics***  
***and Foundations***  
***Division***

---

BITCOLD

R

ASCE

1965

3

2-R-13



PROCEEDINGS OF THE

AMERICAN SOCIETY

OF CIVIL ENGINEERS

## BASIC REQUIREMENTS FOR MANUSCRIPTS

Original papers and discussions of current papers should be submitted to the Manager of Technical Publications, ASCE. Authors must indicate the technical division, technical committee, sub-committee, and task committee (if any) to which the paper should be referred. The final date on which a discussion should reach the Society is given as a footnote with each paper. Those who are planning to submit material will expedite the review and publication procedures by complying with the following basic requirements:

1. Titles must have a length not exceeding 50 characters and spaces.
2. A summary of approximately 50 words must accompany the paper, and a set of conclusions must end it.
3. The manuscript (an original ribbon copy and two duplicate copies) should be double-spaced on one side of 8½-inch by 11-inch paper. Three copies of all illustrations, tables, etc., must be included.
4. The author's full name, Society membership grade, and footnote reference stating present employment must appear on the first page of the paper. (Authors need not be Society members).
5. Mathematics are recomposed from the copy that is submitted. Because of this, it is necessary that letters be drawn carefully, and that special symbols be properly identified. The letter symbols used should be defined where they first appear, in the illustrations or in the text, and arranged alphabetically in an Appendix.
6. Tables should be typed (an original ribbon copy and two duplicate copies) on one side of 8½-inch by 11-inch paper. Specific illustrations and explanation must be made in the text for each table.
7. Illustrations must be drawn in black ink on one side of 8½-inch by 11-inch paper. Because illustrations will be reproduced with a width of between 3-inches and 4½-inches, the lettering must be large enough to be legible at this width. Photographs should be submitted as glossy prints. Explanations and descriptions must be made within the text for each illustration.
8. The desirable average length of a paper is about 10,000 word-equivalents and the absolute maximum is 15,000 word-equivalents. As an approximation, each full manuscript page of text, table, or illustration is the equivalent of 300 words.
9. Technical papers must be written in the third person.
10. A list of key words and an informative abstract should be provided for information retrieval purposes. (Information on preparation available on request).

---

Reprints from this Journal may be made on condition that the full title, name of author, name of publication, page reference, and date of publication by the Society are given. The Society is not responsible for any statement made or opinion expressed in its publications.

This Journal is published bi-monthly by the American Society of Civil Engineers. Publication office is at 2500 South State Street, Ann Arbor, Michigan. Editorial and General Offices are at United Engineering Center, 345 East 47th Street, New York 17, N. Y. \$4.00 of a member's dues are applied as a subscription to this Journal. Second-class postage paid at Ann Arbor, Michigan.

The index for 1964 was published as ASCE Publication 1965-1 (list price \$1.00); indexes for previous years are also available.

EM, HY, SA, SM, ST.

frank well

---

Journal of the  
**SOIL MECHANICS AND FOUNDATIONS DIVISION**  
 Proceedings of the American Society of Civil Engineers

---

**SOIL MECHANICS AND FOUNDATIONS DIVISION  
 EXECUTIVE COMMITTEE**

Bramlette McClelland, Chairman; Woodland G. Shockley, Vice-Chairman;  
 Wesley G. Holtz; T. William Lambe; H. Bolton Seed, Secretary;  
 James D. Wilson, Board Contact Member

**COMMITTEE ON PUBLICATIONS**

Richard J. Woodward, Jr., Chairman; Richard G. Ahlvin; John A. Focht, Jr.;  
 Bernard B. Gordon; James P. Gould; Milton E. Harr; Kenneth S. Lane;  
 L. C. Reese; Frank E. Richart, Jr.; Robert V. Whitman; H. Bolton Seed,  
 Executive Committee Contact Member

**CONTENTS**

**PIERO SEMBENELLI  
 MILANO**

September, 1965

**Papers**

	Page
Effects of Driving Displacement Piles in Lean Clay by Wesley G. Holtz and Clemith A. Lowitz . . . . .	1
Consolidation of Normally Consolidated Clay by Laing Barden and Peter L. Berry . . . . .	15
Michigan Study of Pile Driving Hammers by William S. Housel . . . . .	37
Interstitial Pressures on Rock Foundations of Dams by J. Laginha Serafim and Alejandro del Campo . . . . . (over)	65

---

Copyright 1965 by the American Society of Civil Engineers.

Note.—Part 2 of this Journal is the 1965-42 Newsletter of the Soil Mechanics Division.

The three preceding issues of this Journal are dated March, 1965, May, 1965, and July, 1965.

## DISCUSSION

Dissipation of Elastic Wave Energy in Granular Soils, by J. R. Hall, Jr., and F. E. Richart, Jr. (November, 1963. Prior discussion: May, July, 1964. Discussion closed.) by J. R. Hall, Jr., and F. E. Richart, Jr. (closure) . . . . .	98
Shear Strength of a Soil After Freezing and Thawing, by Bengt B. Broms and Leslie Y. C. Yao. (July, 1964. Prior discussion: March, 1965. Discussion closed.) by Bengt B. Broms and Leslie Y. C. Yao (closure) . . . . .	92
Consolidation Coefficient: Cohesive Soil Mixtures, by Robert L. Kondner and José R. Ventrell, Jr. (September, 1964. Prior discussion: March, 1965. Discussion closed.) by Robert L. Kondner and José R. Ventrell, Jr. (closure) . . . . .	93
Pressure Cell Observations—Garrison Dam Project, by H. A. Sikso and C. V. Johnson. (September, 1964. Prior discussion: March, 1965. Discussion closed.) by H. A. Sikso and C. V. Johnson (closure) . . . . .	94
Settlement of Buildings on the MIT Campus, by Harry M. Horn and T. William Lambe. (September, 1964. Prior discussion: March, 1965. Discussion closed.) by Philip Keene . . . . .	95
Settlement Response Caused by Footing Groups, by Raymond J. Krizek and Robert L. Kondner. (September, 1964. Prior discussion: January, March, 1965. Discussion closed.) by Raymond J. Krizek and Robert L. Kondner (closure) . . . . .	108
Earthquake Stability of Slopes of Cohesionless Soils, by H. Bolton Seed and Richard E. Goodman. (November, 1964. Prior discussion: May, July, 1965. Discussion closed.) by V. Venkatasubba Rao . . . . .	109
Radial Drainage Oedometer for Laminated Clays, by D. H. Shields and P. W. Rowe. (January, 1965. Prior discussion: None. Discussion closed.) by P. M. Jarrett . . . . .	110
Engineering Properties of Simulated Lunar Soils, by Eben Vey and John D. Nelson. (January, 1965. Prior discussion: None. Discussion closed.) by Rodney W. Johnson . . . . .	111
by Leslie G. Bromwell . . . . .	114

Measuring Instruments for Struttred Excavations, by Lauritz Bjerrum, Theodore C. Kenney, and B. Kjaernsli. (January, 1965. Prior discussion: None. Discussion closed.) by Hugh Q. Golder . . . . .	116
Soil Surface Compaction with a Foam-Type Explosive, by L. J. Goodman, A. R. Aidun, and C. S. Grove, Jr. (January, 1965. Prior discussion: July, 1965. Discussion closed.) by Delon Hampton . . . . .	120
Precompression for Support of Shallow Foundations, by Harl P. Aldrich, Jr. (March, 1965. Prior discussion: July, 1965. Discussion closed.) by Rowland Richards, Jr. . . . .	122
Pile and Pier Foundations, by Ralph B. Peck. (March, 1965. Prior discussion: None. Discussion closed.) by Michael Praszker . . . . .	124
State-of-the-Art of Floating Foundations, by Hugh Q. Golder. (March, 1965. Prior discussion: None. Discussion closed.) by William F. Swiger . . . . .	126
Tolerance of Structure to Settlement, by Jacob Feld. (May, 1965. Prior discussion: None. Discussion closes October 1, 1965.) by William H. Gotolski . . . . .	127